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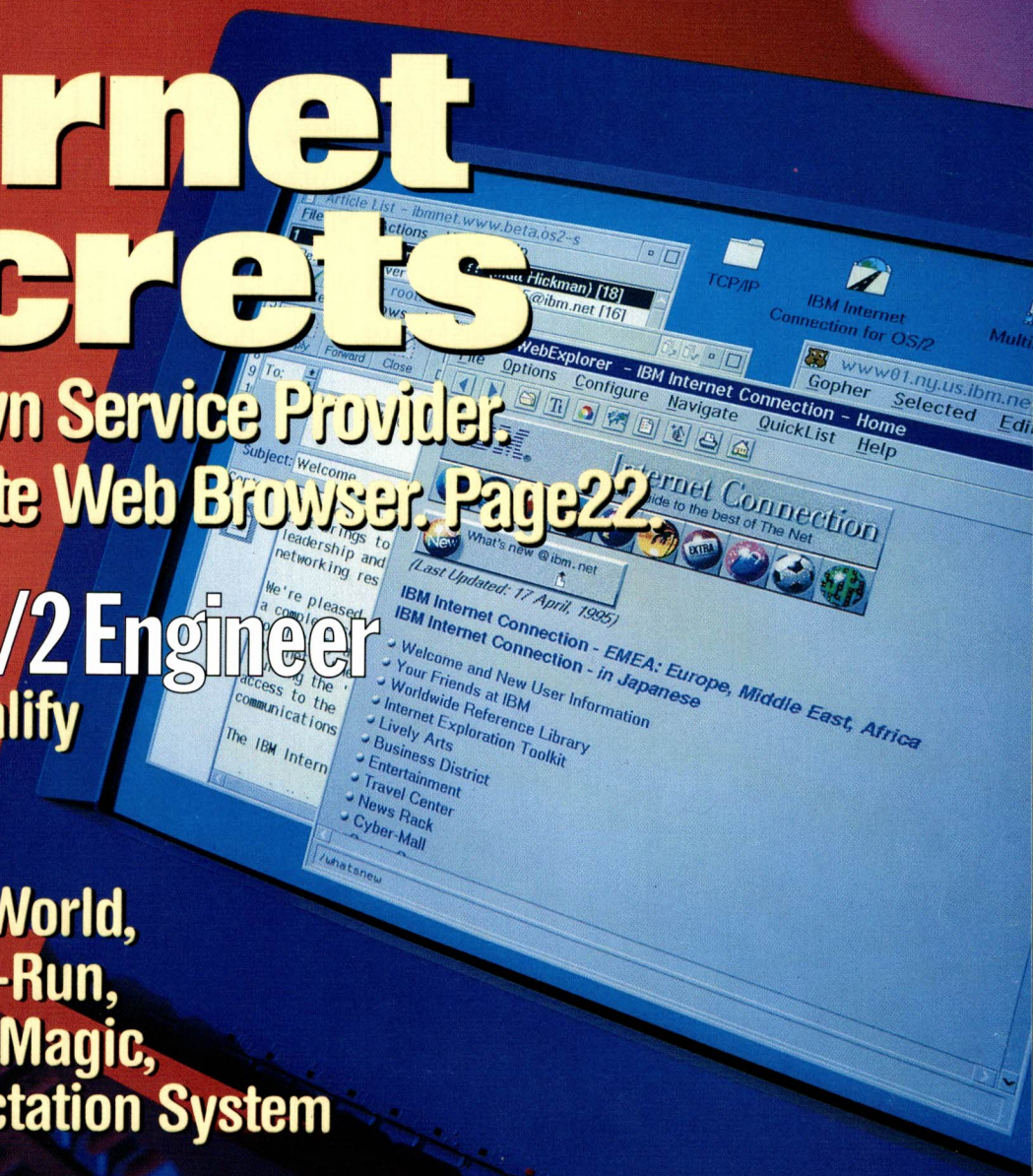

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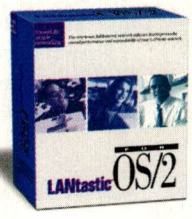

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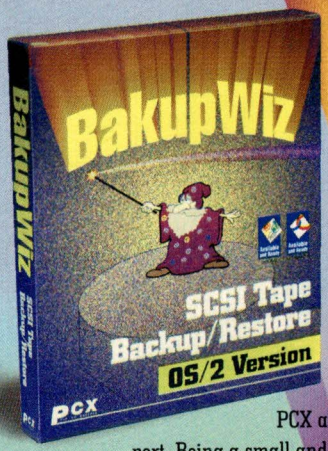

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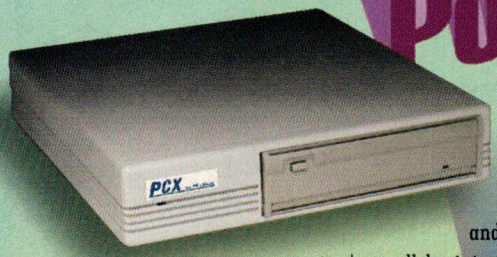

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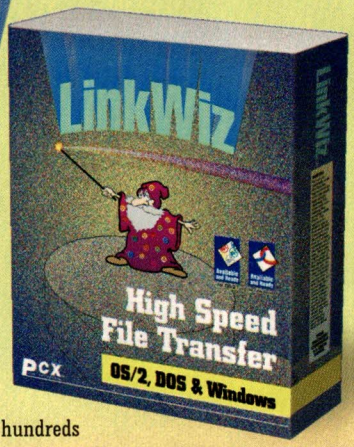

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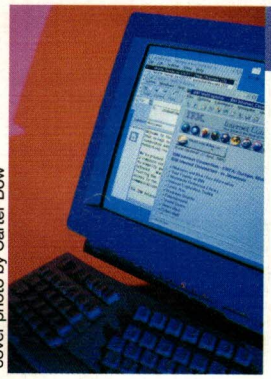

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To leave feedback for *OS/2 Magazine* editors, type GO MAIL and send electronic mail to the addresses listed above. Don't be passive! If you're not a CompuServe member, here's how to join:

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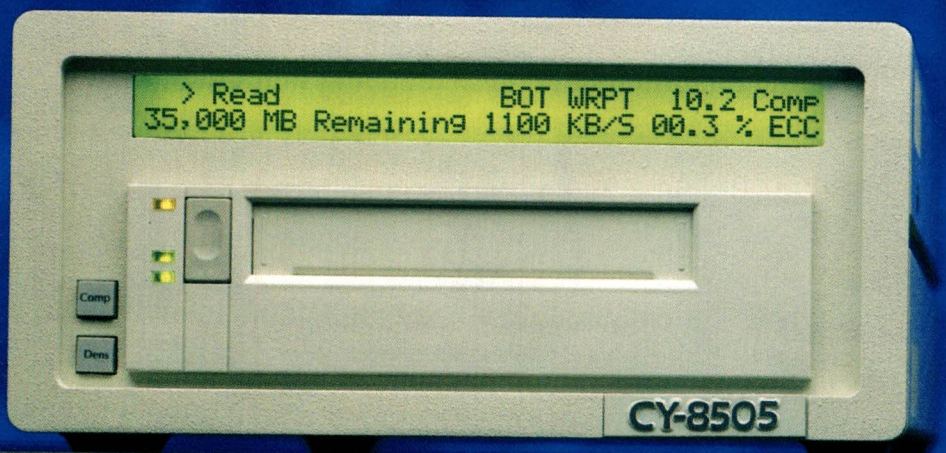

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Perspectives

Information Superhypeway

Information Superhighway, Infobahn, or I-way. No matter what it's called, the Internet is seriously over-hyped. Sure, it's fun to cruise the Net, especially the World-Wide Web, and I've spent far-too-many hours exploring obscure web and ftp sites when I should be home playing with my little son. Few in the computer industry would deny that the Internet is an interesting technology worth exploring or showing to friends and colleagues. It's an unparalleled source of device drivers, patches, and shareware, as well as GIFs from the best show on TV, Babylon 5 (*http://www.hyperion.com*). Perhaps it's even worth staking out a presence by setting up your own Home page (*http://www.mfi.com*) or ftp site. But in no way is the Internet an electronic autobahn.

Surely you've noticed the hyperbole surrounding this evolving communications medium: news about where the Internet really runs well is drowned out by the noise. Whether it's *Newsweek*'s rather adolescent "Cyberscope" section (where the editors implore readers to tell them about cool web sites and "wacky BBSes"), awestruck commentaries on National Public Radio, or *Wired*'s tongue-in-cheek Netiquette column, we're constantly told the Internet is the be-all and end-all, the *raison d'être*, the *sine qua non* of our age. In the words of the twin gods Wayne and Garth, I respond, "Not!" At least, not yet.

What I'm ranting about is the implication that the Internet is a high-speed conveyance from Point A (our friendly OS/2 PC) to Point B (all the wonders of the universe). This myth is perpetuated by the media, and repeated by well-meaning citizens and politicians who haven't ever been on-line. By setting such high expectations, not only are we fooling each other, we're also fooling ourselves.

Picture a typical superhighway, perhaps Interstate 5 running through central California. What defines I-5 as a superhighway, rather than a shoddily maintained local route?

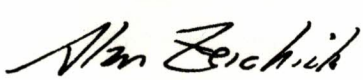
- On I-5, you can find your way by using a map and reading the signs. Well, there aren't Rand McNally maps or AAA Triptiks for intrepid Web explorers, and I haven't seen many directional signs. Just lots of incomplete, out-of-date, and expensive books to buy.
- When driving, if you don't know which exit to take, you can guess, and drive around until you see a landmark. On the Internet, unless you know *exactly* how to get there, you probably can't. So you need to know the exact case-sensitive name of the ftp site or web page; which directory to use; and the file name. If you're wrong, a cheery message like "404 Not Found" will totally fail to help you.
- As you journey along I-5, you can stop at a clean information kiosk or rest area, or detour to a professionally run restaurant, hotel, gift shop, museum, or other attraction. Contrast that with most WWW resources. Volunteers design ambitious Home pages, then become bored, graduate from college, or move to other projects. Many corporate web sites are equally poorly maintained: the "Today's News" hot-key takes you to a press release from last February, and half the others tell you, "This area under construction." You call that a *superhighway*?
- Unless there's a natural disaster, like this winter's California floods, you can expect today's highway roads and bridges to be around next month. Not so on the I-way, where servers come, URLs go, directories are renamed, files disappear, and gateways collapse without warning.
- The California Highway Patrol tries to keep drunk drivers, drive-by shooters, and obviously unsafe cars off the road. On most Usenet newsgroups, on the other hand, you shouldn't post questions unless you're wearing asbestos underwear. You'll be flamed if your query is answered in a FAQ file; if you use the wrong jargon; if your name implies a certain gender; or even if regular denizens don't like your e-mail address, as many America Online customers will testify.

So, why the hype? To a large extent, blame journalists (myself not excluded). We spend hours reading books and periodicals, walking trade-show floors, schmoozing newsmakers, and now cruising the Net, always searching for something new to write about. As my first editor-in-chief said to me (oh, so many years ago), a journalist can sit in his/her office, with feet on desk and nose in newspaper—and have the boss walk by and say, "Keep up the good work!" These days, forget the newspaper: We're buried inside deservedly obscure web pages.

The press has always been infatuated with the latest fashions, no matter how trivial. Since the Internet is fashionable right now, general-interest publishers are scrambling to cover something they don't quite understand—but cover it they must, lest they be left behind "When the Revolution Comes." The hype feeds upon itself, growing more sensational each day.

If you enjoy using the Internet, good for you. I enjoy it too. Just one favor: Please don't call it the Information Superhighway, at least not yet. Perhaps someday there really will be an Infobahn—exciting technologies in the works should eventually revolutionize the I-way. But for now, let's be intellectually honest with ourselves and each other, and admit we're exploring an ill-marked hiking-trail running alongside the path of a *future* superhighway.

Alan Zeichick
Editor-in-Chief



P.S.: I hope to see you at the 2nd Annual OS/2 World Conference & Exhibition, July 18-21, at Boston's Hynes Convention Center. It'll be a great event! For more information, call (415) 905-2354, fax (415) 905-2220, or e-mail *os2world@mfi.com*.

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Letters

DeScribe, Defense, and Dynamic

DeScribe and the End-User Market

Au contraire, Brian Proffit. Apparently you haven't done your homework ("Test Drives," May 1995, p. 24) DeScribe, Inc., has recently launched an end-user product called the DeScribe "Voyager" CD containing single-user, 32-bit versions of DeScribe 5.0 for OS/2 2.11, OS/2 Warp, Windows 95, and Windows NT, and 16-bit code for Windows 3.x. For a limited time only, end-users can purchase the Voyager CD for $49.95, and receive the DeScribe User's Guide at no extra charge. If this aggressive move to acquire market share is what you call "apparent abandonment of the end user market," I would like to know your definition of "quality reporting."

Michelle Lennane
DeScribe, Inc.

We're very pleased to hear about the new Voyager CD from DeScribe, which seems to have been first publicly announced on April 17, 1995, and scheduled to ship some three weeks later.

Brian Proffit's observations about DeScribe's apparent abandonment of the end-user market ("Test Drives," May 1995, p. 24) were written at the end of January, months before this new product had been unveiled to the press or to DeScribe's existing customers. At that time, Brian's comments accurately reflected our impressions after several conversations between DeScribe officials and OS/2 Magazine editors and writers.

For more information about the Voyager CD, contact DeScribe at (813) 732-5500, fax (813) 732-5414, or e-mail 71333 .154@compuserve.com.

-Alan Zeichick, Editor-in-Chief

In defense of OS/2

Dear Editor:

In the May 1995 issue, Phillip Slater Jr. wrote in and registered several complaints about OS/2 that deserve some rebuttal.

First, he said he never heard of anyone who installed OS/2 smoothly or added hardware afterwards. Well, I have done both. When I first installed OS/2, it recognized my no-name video card and my no-name local bus IDE driver card as well as my cheap CD-ROM drive. I later added a SoundBlaster 16MCD with ASP and it found that hardware as well.

Second, Slater ponders the need for multitasking stating that, in real life, most people only do one thing at a time anyway. I think his unfortunate personal experience with OS/2 has made him bitter enough to make a poor analogy. People do things simultaneously all the time. Did you ever start up the washing machine then go watch TV? If the world were run by Windows 3.1 or MS-DOS, you would either have to wait for the washer to complete, then go watch TV, or at least risk having the clothes come out dirty if you do try watching TV at the same time.

After using OS/2, I dread going back and using Windows. Try doing some real work while formatting floppies. Or, try doing file transfers with CompuServe or send/receive a fax while doing anything else. A data transmission will risk failure if you try the wrong thing, so you end up waiting for it to complete first before doing anything else. Boy, is that a pain! Under Windows, I've been in the middle of running a program and had a fax suddenly come in and then had to quickly stop what I was doing and hold my breath and hope the fax makes it okay.

The value I get from OS/2 that I would not get from Windows is the ability to send/receive data or fax while doing other work, the ability to format a floppy while doing other work, and, on a more mundane note, the ability to associate more than one program with a given file type (that's saved me plenty of hassles).

So, my experience with OS/2 is very positive. I am aware that OS/2 has not been a positive experience for many, mostly due to problems at installation, which stem from poor device-driver support. IBM is working to remedy this problem, which is not unique to OS/2. Windows 95 is presumably late because of the myriad of PC platforms that are available.

Mark Bratcher

Dynamic IP addresses using SLIP take 2

Dear Editor:

Regarding Alexander Antoniades' answer in the May Letters column (p. 9), once you install the PPP Gamma update, dynamic IP addresses are no problem, even with SLIP. All that's needed are the special keywords **[$IPDEST]** and **[$IPADDR]** as part of the new Login Sequence—no **.cmd** file is needed. It is part of the Login Sequence box (first page of the settings notebook). The help for Login Sequence describes it pretty well (if a bit tersely), but basically you need to match the response from the router with a template that shows where the IP fields appear.

For example, for our router (from Cisco), the last line in my Login Sequence is **Your\sIP\saddress\sis \s[$IPADDR]** The **\s** matches one or more blanks; it's needed because blanks delimit the alternating send and wait-for entries in the login sequence. You still need to enter the IP addresses in the notebook, but they'll be overridden when the login happens.

You must have the PPP Gamma (or OS/2 Warp fullpack) installed—the login scripting available in the original SLIP is more primitive (and drove folks to write **.cmd** files).

Aron Eisenpress

ERRATA

In the May Issue, Dateline: OS/2 (p. 11) incorrectly listed Microsoft's floppy format as DMS, when it should have been DMF.

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DTP and Internet

TWO MORE NICHES ARE FILLING UP

BY ALEXANDER ANTONIADES

DTP for OS/2, a reality?

One of OS/2's longstanding deficiencies has been the lack of desktop publishing tools that do any print work. Besides antiquated 16-bit versions of Ventura Publisher and Aldus PageMaker, no dedicated desktop publishing tools or even image editors exist.

This state of affairs changed when new image editing tools, such as SPG's ColorWorks, Compart SystemHaus' ImpOS/2, and TrueSpectra's TrueSpectra Light were released. But the other shoe finally dropped when Frame Technology announced that they would be creating an OS/2 port of their cross-platform desktop publishing program, FrameMaker and the on-line document viewer program, FrameViewer. Both programs are scheduled to ship in the fourth quarter of this year and will compare, in features and price, to FrameMaker 5.0 for Windows. This news accompanies the announcement that Corel is expected to ship a modified package of CorelDraw 6.0 that includes an OS/2 version of the main drawing package and an image editor.

Adobe also announced recently that they will be porting their suite of Acrobat products to OS/2. Acrobat is Adobe's on-line document protocol that allows text to be formatted as if it were postscript, while retaining the raw information of the text (so it can be searched). The Acrobat tools to be ported include the Reader (for viewing and printing Acrobat files), Exchange (to view, print, and modify hypertext links), Acrobat Search exchange plug in, and the Distiller (which converts PostScript to Acrobat's *.pdf* file format).

These announcements will at least make OS/2 desktop publishing possible, but it's too early to tell if OS/2 Desktop Publishing will ever be profitable.

OS/2 grows on the Internet, but for how long?

Since IBM bundled the Internet Access Kit (IAK) with OS/2 Warp in October 1994, the number of OS/2 users on the Internet and the OS/2 presence on the Internet has grown considerably. It is hard to believe that only six months ago OS/2 was one of the few environments that didn't have a native Web browser.

Some industrious companies and OS/2 users have started to take advantage of OS/2's increased on-line presence. Because UltiMail/2 Lite was one of the most complained about parts of the IAK, Southside Software released PMMail [(800) 414-4268, (910) 791-7052, fax (910) 350-2937] and InnoVal quickly followed with their own Post Road mailer (see Just Announced, p. 50). NeoLogic [(613) 735-8616, fax (613) 735-5519, e-mail *gutz@hookup.net*] has enjoyed brisk sales of their NetSuite group of products since OS/2 Warp's release.

However, what IBM's role will be in providing OS/2 Internet tools remains confused. For example, without any announcement, IBM released a new OS/2 Archie client into public beta in April. The client, which was at the 0.9 level at press time, allows users to access Archie databases on the Internet that contain lists of file names from ftp sites. OS/2 users appreciate free software, but it does make it hard for smaller software vendors to provide cutting edge products when IBM literally gives products away.

This point was driven home at two recent Internet trade shows. At Internet World in San Jose and E-mail/Web World in Santa Clara, IBM was the only company that showed or announced any Internet software for OS/2. When we asked companies why they had no OS/2 versions of their products, they would often tell us that they didn't know what IBM was planning and dreaded the idea of competing with free software.

Smaller companies might not be able to figure out what's on IBM's agenda, but it appears that IBM does have a plan to integrate the Internet with the OS/2 Desktop. IBM released the IAK for Windows, which, like the OS/2 version, was assembled piecemeal from existing applications. According to IBM, the goal for both kits is to integrate the applets to have a common look and feel, that will most likely be based around the look of the Web Explorer. The future IAKs on OS/2 and Windows will contain tools built from the ground up by IBM. The OS/2 version will be first with the Windows version to follow.

On the OS/2 front, IBM has revealed some enhancements that are planned for the IAK, but in general they are keeping their cards close to their chest. IBM has demonstrated a plug-in interface to Web Explorer that would allow external programs to intercept almost any input to the program from either the user or the Internet. This interface would allow third-party add-ons for everything from sorting the QuickList to on-the-fly data encryption. The other release that was announced is an updated version of the much maligned UltiMail/2 Lite, which will incorporate fixes that will be used while integrating the old Ultimedia Mail into IBM's new Workgroup product.

More and more OS/2 Internet software is appearing every day. In six months, I expect that OS/2 will have one of the richest sets of Internet tools of any platform. While IBM made it happen, unless they can convey to the OS/2 community what exactly they intend to do, chances are that they could accidentally stop all of the growth that they've worked so hard to create.

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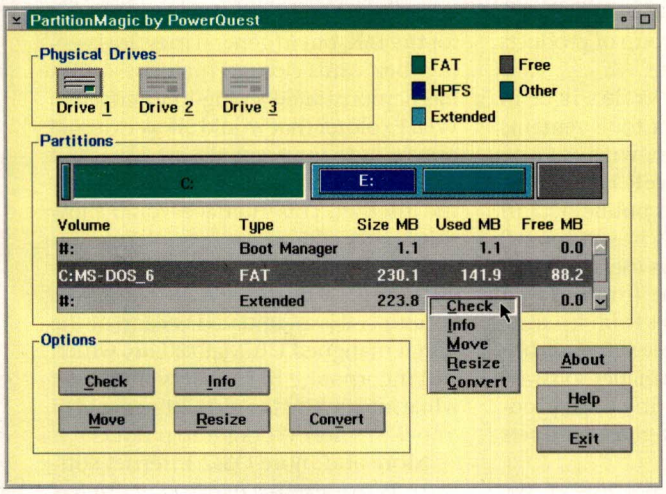

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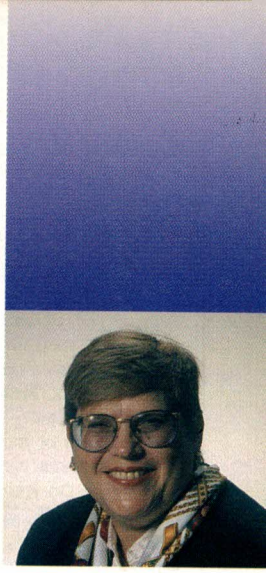


Where's the Power?

WILL OS/2 FINALLY FILL THE GAPS WITH NATIVE APPLICTIONS?

BY AMY D. WOHL

Let's face it. An operating system is judged by the company (meaning applications) it keeps. For a long time, OS/2 found it tough to attract enough applications to be viewed as a competitive operating system. We seemed to judge its success as a numbers game in which OS/2 was found wanting.

But, that might be the wrong way to measure power. Maybe it would be smarter to look at the types of applications an operating system attracts. By that measure, OS/2 is keeping some pretty interesting company and has aggressive plans to add more friends.

OS/2 has two advantages: its maturity and the corporate buyers it attracts to its server applications. Because OS/2 is robust and mature, it's possible to write applications in a well-developed environment. Developers know what they can expect and the environment is well understood. It takes years of tuning, testing, and polishing before an operating system reaches this phase in its life cycle. OS/2 can certainly attest to the bumps and uncertainties along that road. But, that road is behind OS/2, and developers and users can reap the rewards of its journey.

An important part of OS/2's appeal is its multithreading, allowing a single application to perform multiple tasks simultaneously. This feature enables IBM's dazzling Internet browser performance, for example, where multiple queries can be simultaneously executed. It takes a very long time to download a big web site graphic, but the delays become invisible, because the user spends that time productively investigating other sites or firing off other queries. (The latest news from the Windows 95 front is that the initial release of Windows 95 will not include multithreaded 32-bit applications, although we would expect them to be included as the operating system matures.)

OS/2 is keeping some pretty interesting company and has aggressive plans to add more friends.

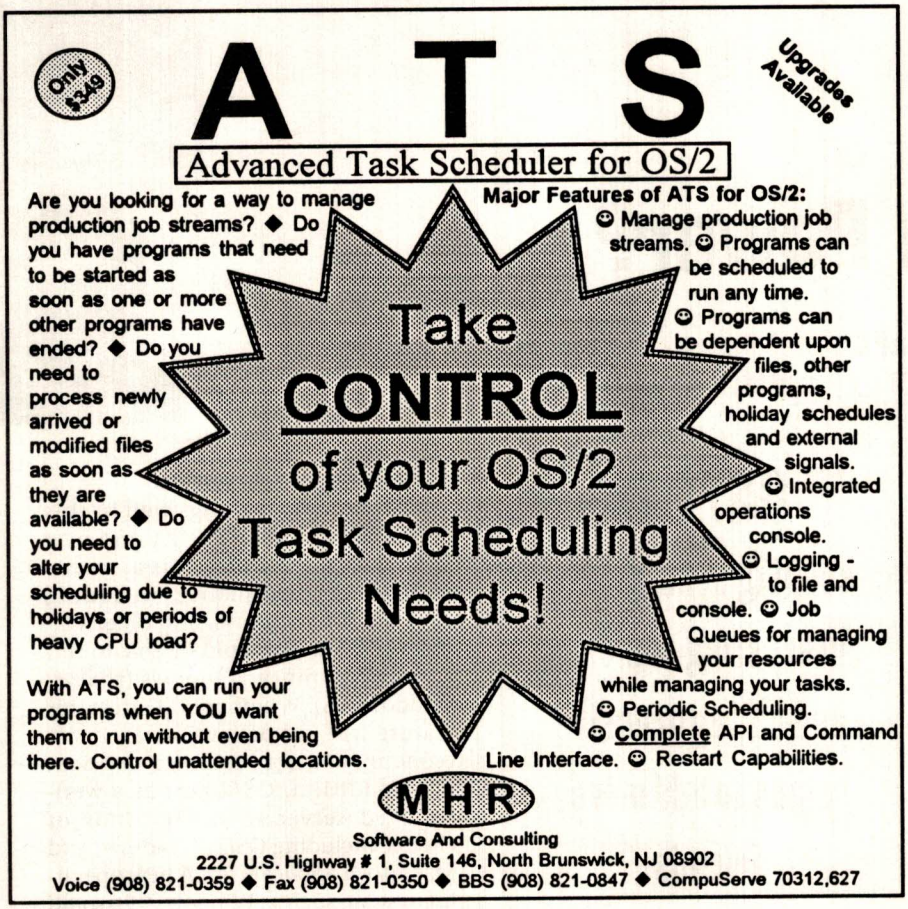
OS/2 has had approximately seven or eight years to mature. It should come as no surprise, therefore, that great emphasis has been placed on how OS/2 fits into an environment in which other operating systems have been in use and are likely to continue to be used. IBM would, of course, like you to fall completely in love with OS/2 and toss out everything else, but that is very unlikely. First, it's disruptive to the real business of whatever it is we do, which is not, usually, trying out new technology. Second, it's expensive. It requires buying software (and maybe upgrading or buying new hardware) and will certainly require additional support and training. Users will be, for a time, less productive until they learn to be skilled in the new environment. And, lastly, it's unrealistic. The software that customers use might only be available on particular operating systems.

OS/2 does two things well in this regard: it runs many legacy and new applications environments as guests with good performance, including DOS, 16-bit Windows, and older versions of OS/2. It should be able to run 32-bit versions of Windows (that is, Windows 95). Whether IBM offers this feature will, we believe, really be an economic and not a technical decision.

In addition, OS/2 acts as a well-behaved server to many kinds of clients, including OS/2, Windows, and Macintosh applications. A new operating system, such as Windows 95, would need to support a broad variety of applications and legacies (certainly, at least its own 16-bit applications) with good performance. It must also understand that most customer environments, for many reasons, have a wide variety of clients to support, which takes time.

OS/2 has long appealed to corporate buyers. Developers of server software have been particularly interested in developing for the platform and no lack of applications software exists at the server level.

Now, IBM, flush with its success in marketing OS/2 3.0 and made more confident of its position by Microsoft's difficulties in getting Windows 95 to market, is making an aggressive play to the development community. It has countered any rumors about IBM's lack of commitment to OS/2 by sending their chairman, Lou Gerstner himself, on the road to proclaim IBM's confidence in OS/2 and to seek additional development partners, particularly among the top 1,000 software developers.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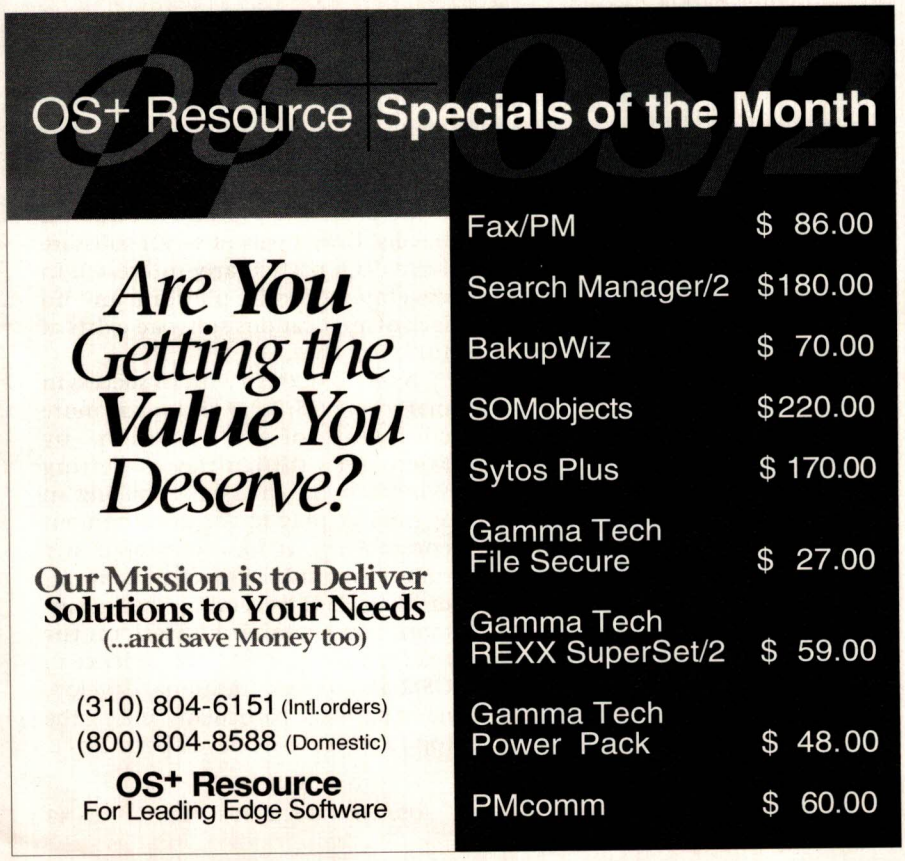
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Little possibility exists of eliminating independent software vendor (ISV) fascination with Windows, but the economic potential of such a large market is just too much for most developers to get past. Nevertheless, IBM can make a good case for the fact that the OS/2 market is much larger now than it was a year or two ago and it's growing at a startling pace.

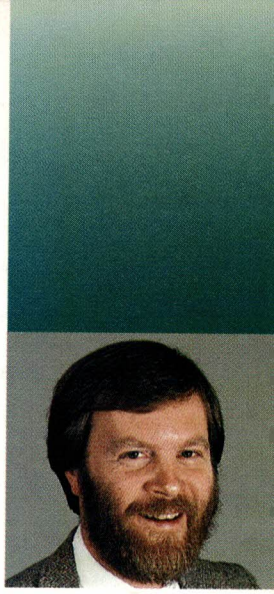
Customers who buy OS/2 just to run their Windows applications in a safe haven might consider moving on to Windows 95 when Microsoft gets its act together. Customers, however, who move to OS/2 applications are likely to stay in IBM's camp much longer. That's why IBM has to do anything it can to attract the major ISVs. We ignore reports that IBM OS/2 evangelists travel the country followed by tractor trailers of cash. On the other hand, we assume that they are offering technical assistance and some financial support, particularly in the form of joint marketing programs for OS/2 applications.

At the desktop level, IBM can offer developers many markets in which customers are clamoring for more software, so it seems likely that additional software will be seen moving into the OS/2 marketplace soon. That will make it easier for IBM users to stay entirely in an OS/2 environment, if that is their preference, instead of using OS/2 for desktop and systems management and in-house (custom) applications, switching later to Windows for personal productivity applications.

The number of applications that port is not the point. Microsoft's economic clout in the operating system market will always attract more applications. The question is, can IBM get two or three of the top applications in each important category onto OS/2? If they do that, the future of OS/2 will look much brighter, and all who have recognized OS/2 as a robust and reliable platform will feel that their good instincts have at last been rewarded.

Amy D. Wohl is president of Wohl Associates, a consulting firm specializing in office information systems, personal computing, and end-user computing. She is also editor of the Trendsletter, a monthly newsletter on computer industry trends.

This does not Bob well for Chicago!



WITH FRIENDS LIKE BOB, DOES WINDOWS 95 NEED ENEMIES?

BY WILLIAM F. ZACHMANN

Microsoft's Windows 95 (formerly known as Chicago) has enough problems of its own already. Its underlying architecture is seriously flaky. Microsoft has created unrealistically high expectations for it and is struggling to get it in good enough shape to ship by August as has been repeatedly promised. The code shipped as what I've called the "Famous 400,000 Chicago Beta" and what Microsoft called the Windows 95 Preview Program, obviously still had plenty of bugs, installation glitches, backward-compatibility problems, and other things that needed fixing before it was ready for prime time. Windows 95's multitasking appears to be uncomfortably "lumpy." Windows 95 wants an awful lot of memory to run adequately and even Microsoft VP Brad Silverberg has said that it really isn't an operating system to rely on for "mission critical" applications.

The last thing Windows 95 needs at this point is additional grief from relatives who act stupid and besmirch the family reputation. That, however, is exactly what it has got. I refer, of course, to Windows 95's country cousin, Bob. Windows 95 already has more than enough of its own problems. To have a goofy yokel, such as cousin Bob running loose in the industry only makes matters worse.

According to Microsoft, of course, Bob's "Dumb and Dumber" exterior belies what is supposedly his very sophisticated background. Bob, Bill Gates tells us, is really the first of a new breed of software: the so-called "social interface" that is supported by research at Stanford University and is destined to redefine how people use computers. Bob is touted as being merely the first of a long line of software that provides an engaging personality or personalities for users to interact with, similar to HAL in 2001.

Unfortunately, however, Bob also happens to be seriously stupid software that isn't actually of significant practical value to anyone and, worse, is already well on its way to being a big bust. Notwithstanding Bob's putative academic credentials and Stanford degree (any academics who persuaded the folks in Redmond that Bob was a good idea clearly had their feet planted firmly in the clouds), it will not bring Microsoft anything but well-deserved scorn and derision, which does not Bob well for Windows 95, either.

The fundamental problem with Bob isn't necessarily that the whole "social interface" idea is a dumb one. In fact, it might actually have some merit, although that remains to be proven. The fundamental problem with Bob is that as cute as Rover the dog, Chaos the cat, Scuzz the rat, and the other "faces of Bob" might seem to people who like cute software, the bottom line is that they aren't, in fact, very helpful, even for the pathologically computer-phobic minority for whom Bob was presumably intended. And, for users who aren't already as dumb as Bob, Bob just gets in the way.

What's worse is that Bob requires an enormous amount of resources. He weighs in requiring a hefty 8MB (minimum) of memory and a whopping 32MB of hard disk space. Bob almost makes OS/2 Warp look positively lean and mean by contrast! I am hard pressed to think of another example of software that requires so much memory and disk storage and that manages to do as little as Bob does. It is, therefore, small wonder that so few users have been willing to pony up $75-80 for Bob and that sales of Bob have been so dismal.

The fact that Bob, the "social interface," is such a bust, however, creates a certain spillover effect for Microsoft and for Windows 95. Social scientists worth their Ph.D.s can readily tell you that power and influence in society are largely a function of how powerful others think you are. If many people believe that you are powerful and influential, then you are powerful and influential. Anything, however, that undermines such belief also tends to undermine your power and influence. That's the essence of Hans Christian Andersen's "The Emperor's New Clothes," which, of course, brings us right back to Bob.

One of the primary reasons that so many people, including many analysts and members of the press, have assumed that Windows 95 will be successful has been the widespread belief that just about anything Microsoft does will be successful. Despite Windows 95's quite obvious limitations (and problems), despite its dubious architecture and repeated delays, the overwhelming majority of observers have continued to give it the benefit of the doubt, assuming that merely because it is Microsoft, it is bound to succeed.

However, Bob, coming along as Microsoft's most conspicuous product introduction just prior to Windows 95 and yet so clearly failing to live up to the hype for it, let alone to sell a reasonable number of copies, makes it abundantly clear that Bill Gates' supposedly magical Midas touch isn't nearly as reliable as was claimed. Bob

shows, beyond any reasonable doubt, that Bill G. & Co. are at least as able to deliver a major turkey of a product as any other vendor in the industry.

What's more, Bob also shows something very interesting about Microsoft's fundamental attitude toward users, which also does not Bob well for Windows 95. Those (few) who have tried to make a case for Bob have claimed that most observers have failed to appreciate Bob because they are too sophisticated, too computer-literate. Bob, according to its supporters, can only be fully appreciated by those unwashed masses of computer idiots for whom it was really intended. Of course, these comparatively scarce Friends of Bob have somehow failed to come up with an explanation of just where those unwashed masses awaiting computer salvation via Bob are, since they clearly aren't out buying Bob.

What Bob really shows, however, is not that the majority of observers are too sophisticated to appreciate Bob but, rather, just what an arrogant and condescending attitude the folks at Microsoft have toward ordinary users: they quite obviously think those ordinary users are dumb enough to buy Bob. Unfortunately for da boyz from Redmond, however, those ordinary users are leaving Bob to collect dust on the store shelves in droves. Whatever else they are dumb enough to do, they clearly aren't dumb enough to buy Bob.

That does not Bob well for Windows 95 since it strongly suggests that once users see what they will really get if they buy it, they aren't likely to rush out to purchase Windows 95, either. The failure of Bob bodes ill for the notion that the majority of users won't notice that despite a few superficially glitzy bells and whistles Windows 95 doesn't do the important stuff that OS/2 has long done nearly as well as OS/2 does it. On the contrary, the failure of Bob suggests that ordinary users may have no problem at all recognizing Windows 95's competitive limitations.

Windows NT 3.1 was a far more serious competitor to OS/2 before it shipped than it was after it shipped. Chances are good something similar will transpire with Windows 95. Massive rejection of Bob in the marketplace suggests that ordinary users are a lot smarter than Microsoft has given them credit for being. My hunch is that many, perhaps even most, will be smart enough to see that Windows 95 merely tries to deliver what is really little more than an ersatz version of what OS/2 Warp has long been able to better provide. While that is likely to work to OS/2 Warp's benefit, it truly does not Bob... uh, bode well for Windows 95. Mark my words: Bill Gates is going to wish he'd never heard of Bob before this one is over. He may wish he'd never heard of Windows 95, too.

Will Zachmann, a well-known computer-industry analyst, is the founder and president of Canopus Research, based in Duxbury, Mass. He is also a former vice-president for corporate research of International Data Corp. You can reach him on CompuServe at 76004,3657, or on his popular CANOPUS forum.

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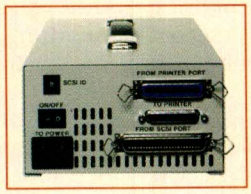

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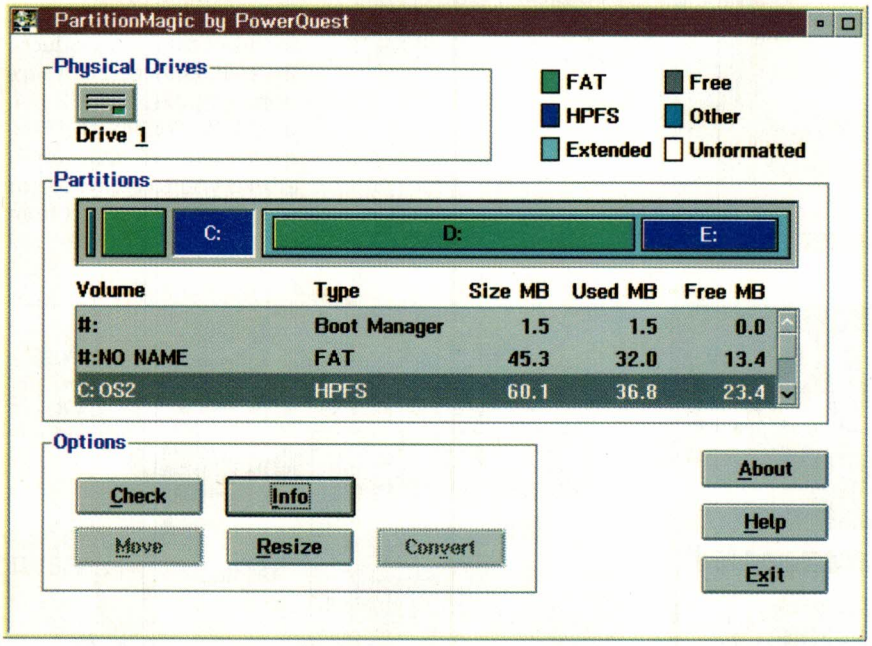


Sometimes I feel like a statistician. We all know that the same information can be presented in at least two different ways that paint very different pictures. Suppose that five people are trying to recruit new members and they get one. Should the headline read, "Group increases membership a full 20%!" or "Group only finds one person interested?" In a similar vein, Is PartitionMagic a limited-function disk administration utility or a golden key that unlocks onerous bonds that have chained personal computer users for decades? It can appear to be either, depending on whether you need the functionality it provides.

PartitionMagic takes on the challenge that had previously been left to FDISK—maintenance of the partitions on your hard disk. But, PartitionMagic allows you to do things that even FDISK won't attempt. You can actually resize and move partitions or convert them from FAT to HPFS without losing the data and having to reformat partitions and restore the data. This method even works on partitions that have been compressed with Stacker. Let me make it abundantly clear, though, that you must backup your data before modifying any partition. Even if I were willing to declare PartitionMagic bug-free, which I'm not, the possibility of a power failure or hardware error in the middle of partition restructuring remains.

Usage considerations

Needless to say, a product that affects such intimate parts of your computer requires some special considerations. For example, you can't change the partition from which you loaded PartitionMagic. To help circumvent this unavoidable restriction, Power Quest included three distinct versions of the software. The standard version runs in a normal OS/2 graphical window. A DOS version exists as well, so if you are using Boot Manager, you can use that version to modify your OS/2 boot partition. The third version is designed to run in OS/2's maintenance mode (the non-graphical subset of OS/2 that is accessed by booting from the OS/2 installation disks and "escaping" from the welcome screen to a command prompt).

OS/2's Boot Manager wasn't always able to keep up with partition changes. I didn't lose any data, but I did have to use FDISKPM (or FDISK) to remove those partitions from the Boot Manager menu and re-add them to get Boot Manager to work properly again.

Windows 3.1 became confused (big surprise, right?) if the partition that contained the swap file was changed. I had to delete the hidden file and go into the Control Panel and recreate it. That's probably something that Power Quest will never be able to fix.

Converting partitions from FAT to HPFS is a one-way process. You can't convert them back without going through the normal delete, reformat,

and restore process. To address that problem, Power Quest would have to convert long filenames to 8.3 format and move extended attributes from the individual files into the *ea_data._sf* format used in FAT partitions. These considerations are understandable and don't change the fact that this product accomplishes things that could never be done before.

Glee or flee

As I said before, people will have widely disparate views of PartitionMagic. People whose disks are a single large FAT *c:* partition won't find much use for it. But, even for them, PartitionMagic could have been a handy tool to test the waters of the High Performance File System painlessly. Unfortunately, Power Quest chose to price it so high that no casual user will bother. By limiting their target audience to corporate MIS departments (and that's exactly what their pricing strategy does), Power Quest guaranteed that PartitionMagic will never become a widely used product. That's a shame, because it provides valuable functionality. In a perfect world, they would license it to IBM to be included in OS/2.

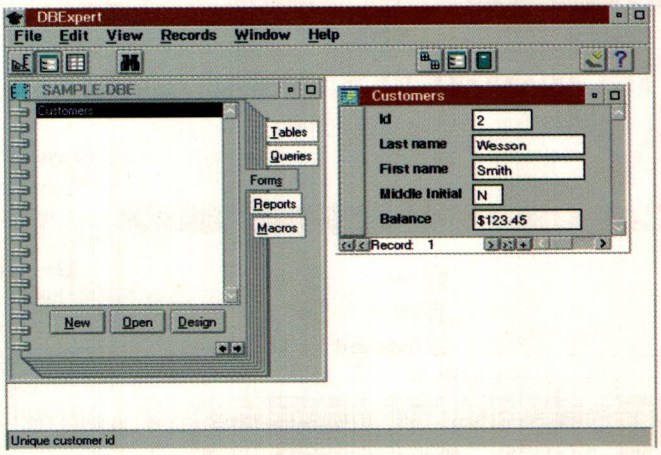
DBExpert 1.0.2

Expectations are interesting; set them low and a mediocre product shines; set them high and that same product disappoints. In that light, let me start this review by pointing out that DBExpert has a suggested retail price of $495. That price sets high expectations against which the product should be measured.

Great expectations

Installation of DBExpert is quite straightforward. It sets a good tone by checking your disk for existing copies of the Q&E database library (a set of low-level database-manipulation routines that are used by many developers) on your disk. If a copy is found, DBExpert will use that copy instead of installing a duplicate.

Installation also checks for other database products. By itself, DBExpert can support Clipper, dBASE III, dBASE IV, FoxPro, and FoxBASE tables. In addition, it allows you to create forms into, query, and report from databases in DB2/2, DB2



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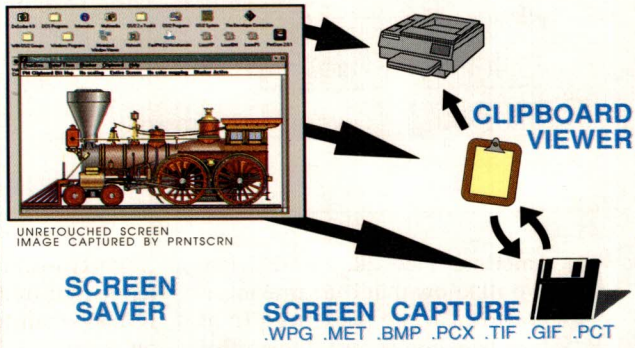

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/6000, SQL/400 (through DDCS/2), MVS/DB2 (through DDCS/2), SQL/DS (through DDCS/2), Oracle7, and theoretically all ODBC-compatible databases, as long as you have those database products installed.

Getting started with DBExpert, however, is difficult. The sample application that was included was apparently modified after the manual was printed—they don't match. Not that it matters much, because little more than half a page of documentation is devoted to the sample. Put that together with the fact that no tutorial is included—written or on-line—and learning to use DBExpert becomes a real chore.

User interface notes

DBExpert applications take the form of a Workplace Shell notebook with tabs for tables, forms, queries, reports, and macros. That will be some comfort to people who are familiar with OS/2. One wonders why they removed some of that comfort by labeling the button that you use to change an object, Design, instead of the obvious standard term, Edit.

Databases are laid out in tables, which DBExpert refers to as "spreadsheets." The columns represent the fields in the database and each row is a separate record. DBExpert supports the use of multiple keys, both unique and duplicate, to speed access to the information in a variety of ways.

Several data types are supported, but with our high expectations in mind, let's mention the limitations. Text fields are limited to 254 characters, which isn't so bad because a Memo field type also allows up to 65,000 characters. Still, even 65,000 is relatively arbitrary in a 32-bit virtual memory operating environment that isn't bound to the 16K segments of DOS.

A more significant limitation is that bitmap fields can only contain 32,000 bytes. For a comparison, note that the OS/2 Warp logo that is displayed during system boot is nearly 50% above that restriction. In other words, you're restricted to relatively small images. It's no accident that Designer Software uses flags as the sample graphic in their marketing materials; flags rarely have more than three colors. Suppose, however, that you wanted to store an employee's picture with their record and you're willing to restrict yourself to a barely-acceptable eight colors. The maximum picture size would be roughly a 64 by 64 pixel square. Remember, computer monitor sizes are based on a diagonal measurement of the entire picture tube, which includes parts that are hidden inside the plastic border, as well as the black border not used by your display adapter. So, on a typical display, the actual visible area is approximately 11 by 8 inches. If we assume that you're running at a resolution of 640 x 480, instead of 800 x 600, the picture you've included to help identify employees will be an optometrist's dream. It will be approximately a 1.1 inch square, about the size of a postage stamp.

You can establish default values that can be inserted into new records and you can set fields as mandatory so that records cannot be saved if those fields are blank. You can also define validation rules as a way of checking the

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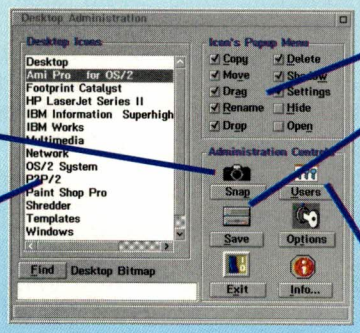

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validity of data. This feature serves as a good example of the weakness of the documentation. The manual gives three examples of what a validation rule might look like, but gives no list of the operators that can be used, or how they can be put together in "AND" or "OR" relationships. Moving to that field in the database and pressing <F1> doesn't bring up context-sensitive help either. Instead, it brings up a general panel about creating a new table. None of the hypertext-related sections in that panel jump out as being appropriate. If you do a search through the on-line help, you get a panel that gives the same three examples as the manual, but no additional information.

In the description of putting a checkbox on a form, you are told that you can enter a validation rule. "For example, >=0 would cause an error to be displayed if the user entered a negative number." The manual gives no hint as to how a user could accomplish the singular feat of entering a negative number into a checkbox.

Once you figure out how to write validation rules, you find that they are easily circumvented. DBExpert does validity checking when the database is accessed via forms, but it doesn't do any checking on those fields if you use the native "spreadsheet" view. Designer Software acknowledges the problem and said that they are considering addressing it in the next release.

I'm glad to see that DBExpert supports the emerging standard of including hint text at the bottom of a window that changes to let you know the purpose of the area of the window currently in use. Unfortunately, it doesn't necessarily change when you leave a field, leaving inappropriate suggestions in the display.

You can dress up the interaction with tables with the use of forms. The QuickForm tool uses the title and characteristics of each column in the table to create a simple form that can be used to manipulate the database. You can also work from a blank form, using a variety of tools to dress up the appearance of your forms.

DBExpert, however, does not support static bitmaps. If you want graphics on a form or report, they need to be contained in the records of the database. So, you can't reproduce your existing forms with, say, the company logo at the top of the window. In addition, if you make a change in the appearance of the form-layout window, it doesn't always take effect right away. For example, the layout window includes horizontal and vertical rulers. If you click on the View/Ruler entry in the menu, the rulers don't go away until you close the window and reopen it. The same is required to get them back. It takes two separate steps to change the horizontal and vertical sizes of a form. The corner of the form doesn't give you the diagonal sizing arrow that is found in every other window on your desktop.

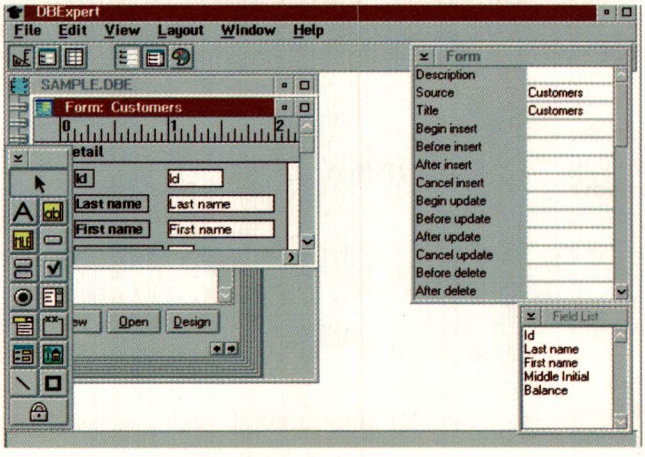
Finally, no clear correspondence exists between the appearance of a form in the design window and the final appearance. You might design a form to be only a small subset of the full window, yet the final form will fill the window, which can make all of your carefully crafted alignment and centering no longer look correct.

Creating more advanced applications

Forms can serve as more than just windows into the database. Use of Presentation Manager controls, such as list boxes, radio buttons, and pushbuttons can make a form look more like an OS/2 application. Macros can be assigned to these controls to perform a certain level of processing and decision-making on the data. Unfortunately, it's in an entirely new macro language—and a limited one at that. To help you learn that new language, a total of 12 pages of documentation have been provided. If Designer Software had chosen REXX, the OS/2 standard procedures language, 12 pages would have been sufficient to define the interface between REXX and DBExpert, and the developer would have had all that was needed. As it is, newcomers will waste a lot of time on trial and error, trying to learn this new mini-language without much help. Designer Software said that they hoped to have a developer's version that would resolve this problem in late 1995. That version is planned to include a DLL that will allow databases to be accessed from your favorite OS/2 development language.

For better selectivity when viewing your data, you can create queries into a database. Queries can span multiple databases, even in different formats (for example, dBASE to DB2/2). Some of the work of query creation can be done via drag-and-drop between the fields in tables and the query layout window. But, even here you'll find an anomaly. In the query layout window, the area for specification of a field name to be included is represented with a drop-down list box. But the list box is totally empty! You have to double-click on the field name from the table lists to insert the field. It appears that the drop-down button is only decorative.

Queries are especially useful for selecting records based on the characteristics of a particular field in those records. For example, you might want to look only at records of people whose last names begin with the letter, "J." Designer Software chose wild cards for creating expressions that are a total departure from the expectations of anyone who uses a personal computer operating system (which, I believe, pretty much covers DBExpert's target audience). You expect the **?** wild card to match any single character at your operating system command line and the ***** wild card to match any string of characters. To find *config.sys*, you might use an expression like **config.*** or **config.s??**. But, neither of those expressions works with DBExpert. Instead, the ***** wild card now matches only a single character, and the new **%** wild card match-



long do you think it will take until you to get used to coding expressions, for example **config.%** and **config.s**?**

Users can also define queries as "action queries," which actually modify table contents. Our beloved editor, for example, could create a query that would automatically increase all columnists' payments by 20%. The results of a query can also be used to create a new table.

Experienced database users will appreciate the fact that you can open a window and directly enter SQL statements, instead of having to use the point-and-click drag-and-drop technique.

I found the DB, where's the expert?

DBExpert doesn't claim to be a relational database, although you can join data sources. In a query, for example, you can define relationships so that an employee number in one table can be used to access a specific record in another table. Joining fields is easy; you simply drag fields from one table and drop them onto the associated column in another table. But the program has no referential integrity. The relationship between the tables is purely cosmetic.

At this price range, I would expect a variety of templates to speed and simplify the creation of tables, forms, and reports. I do appreciate the Quick Form and Quick Report options in DBExpert, but I would like to see more options in a variety of formats. You can see in the screenshot on p. 20 that the forms that were generated with QuickForm are unlikely to ever see the production environment.

Glee or flee

DBExpert is a straightforward flat-file database (with a few table-lookup functions thrown in), priced where one would expect to find a more full-featured forms-based flat-file database, or even a relational database. If the price was lowered to $100 or less, I would be much more impressed with the product. But, a package priced this high needs to be a great product with thoroughly impressive functionality. DBExpert, at least the current version, doesn't meet those expectations.

Brian Proffit has been in the computing industry for 20 years. He was part of IBM's OS/2 team, left IBM to become the director of PC Week's Corporate Labs, and is now the president of Visionary Research. Brian is the author of three books on OS/2, is a contributing editor for OS/2 Developer and senior contributing editor for OS/2 Magazine. He can be reached at 75300.1466@compuserve.com.

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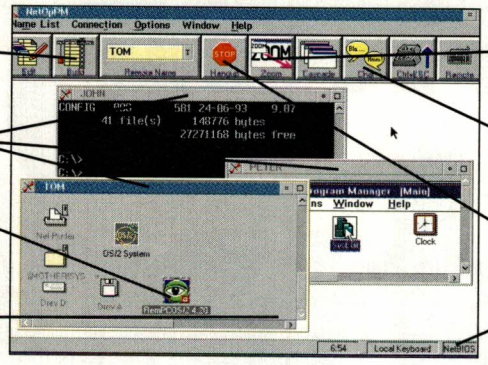

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Stretching The Internet

Using third-party accounts and debugging the Internet Access Kit

Everyone's talking about OS/2 Warp's built-in Internet capabilities. Nobody's more excited, of course, than Advantis, a part of the IBM Global Network, since the Internet Access Kit makes it easy to hook up to the net using Advantis, and more difficult to make connections through third-party service providers.

Once you're connected, what about the quality of the Internet tools themselves? Since the launch of OS/2 Warp, Internet newsgroups have been filled with complaints, especially about UltiMail Lite and NewsReader/2. Even the better-designed WebExplorer has a few known bugs.

Let's discuss connecting to non-IBM service providers using OS/2 Warp, and examine a few tips and work-arounds to fix known problems in the IBM Internet Access Kit.

Making connections

Connections to the Internet through a modem come in

three basic flavors: Dial-up connection, Serial Line Interface Protocol (SLIP), and Point to Point Protocol (PPP).

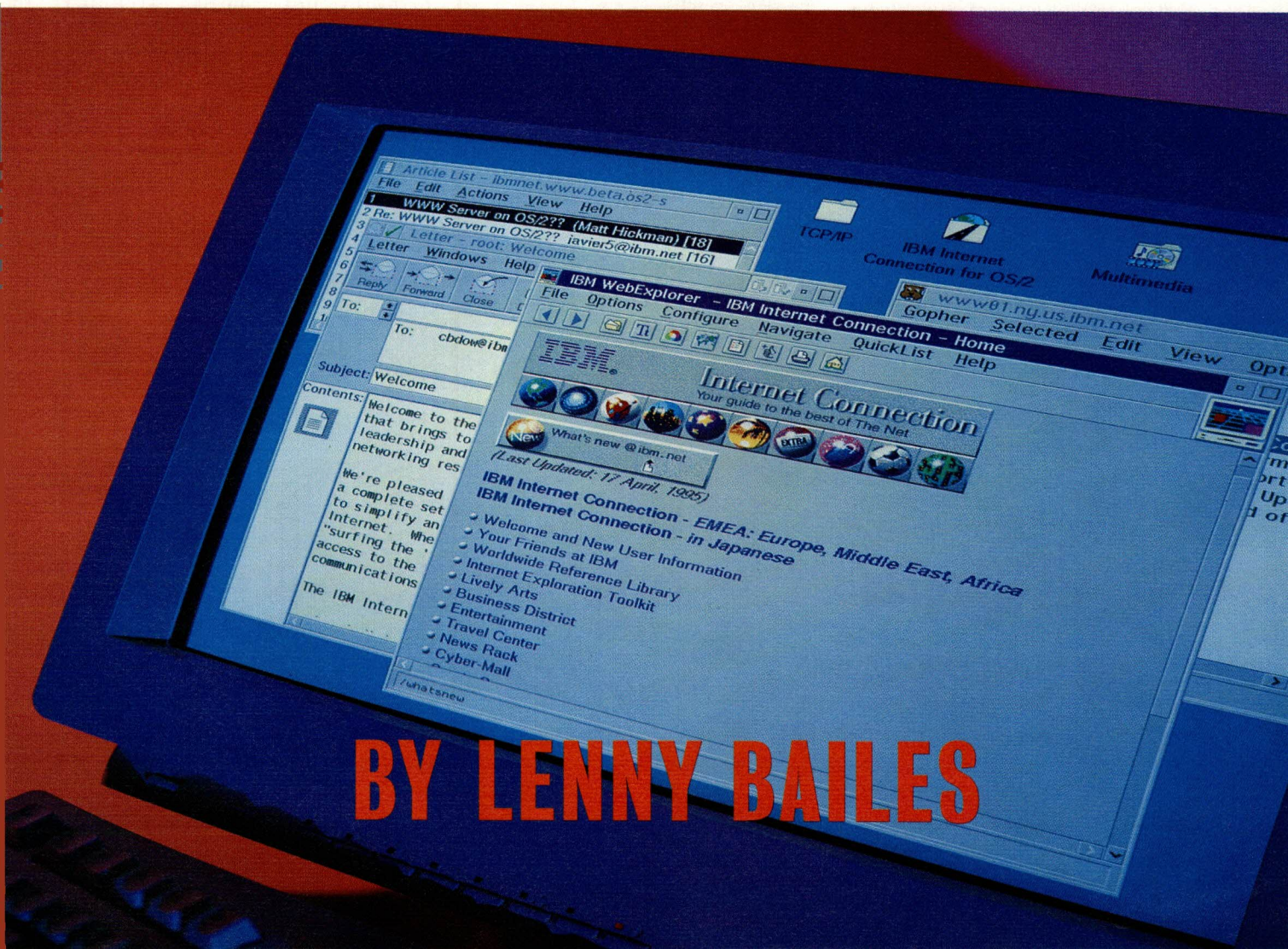
A "dial-up connection" or "shell account" usually offers you limited Internet access through a text command prompt. You don't need the IBM Internet Connection to use a shell account. You can dial in with ordinary DOS, Windows, or OS/2 telecommunications packages (several were reviewed in "OS/2 Calling," *OS/2 Magazine*, December 1994, p. 53). A shell account usually provides access to various Internet features by running text-based UNIX programs through a remote server. Generally, in a shell account, you can only run one process at a time—and you can't use graphic display utilities to see what you're doing.

Some suppliers of UNIX shell accounts now enhance their Internet services through a special utility called TIA. TIA allows a dial-up account to emulate a SLIP connection, increasing the options available to users. (More on TIA, a bit later on.)

A SLIP connection makes your local computer temporarily part of the Internet through a modem. (SLIP is the type of connection currently being offered by IBM through Advantis.) With SLIP connection, you can run email, gopher, ftp, and Usenet utilities simultaneously with a graphic-based browser for the World Wide Web. The only limitations on multitasking are the speed of your modem and the bandwidth of the service provider's Internet connection.

A PPP connection is identical in functionality to a SLIP connection, but makes use of a newer Internet protocol that requires a slightly different login procedure. The first release of OS/2 Warp "for Windows" only included SLIP capability; OS/2 Warp "full-pack" added the PPP drivers.

As bundled in the OS/2 Warp BonusPak, the IBM Internet Connection permits you to set up a new SLIP account with IBM/Advantis or to use an existing SLIP account from a third-



BY LENNY BAILES

party service provider. Once you're connected to the Internet, you can download a series of upgrades to the BonusPak software (including the PPP dialer, if you don't already have it). What you may not know is that you don't need to establish an account with Advantis to download the latest dialer version.

If you don't already have an Internet account, you may be asking yourself whether it's better to sign on with IBM, or to find a provider in your local geographic area. The advantages of an Advantis account are the convenience of immediate on-line registration, and automatic setup of your gopher and World Wide Web software to point to specific IBM information sites. The disadvantage of IBM/Advantis accounts is that they are currently limited to a connection speed of 14,400 bps. Most local Internet providers offer you a connection at 28,800 bps for V.34 and V.FC modems.

If you use the Internet primarily for email or to browse Usenet newsgroups, the difference in transmission speed will probably be insignificant However, if you plan to ftp large data files from remote sites or spend a lot of time browsing the World Wide Web, you will really appreciate the added bandwidth of a 28,800 bps connection. (For a basic description of the World-Wide Web, ftp, and usenet newsgroups, see "Cruising the Internet with OS/2," *OS/2 Magazine*, November 1994, page 30).

The economics of third-party service vs. IBM's Advantis vary in different geographic areas. Check local computer magazines or user groups in your city for advertisements from local service providers. If you're in a rural area, there might not be any within a low-cost or no-cost calling zone. Remember, also, that a small local provider may have a limited number of modems available for you to dial into. And a local provider may sometimes be flooded with Internet traffic over a low-bandwidth connection. The result can be constant busy signals at certain peak hours of the day or "Server busy" messages when you do manage to connect. Ask your prospective service provider about the ratio of customers to modems (10 customers per modem is a good ratio). And ask whether their feed to the Internet is through a low-speed T-1 router or a higher bandwidth T-3 router.

If you choose an Internet provider other than Advantis, you'll need to use the "Dial Other Internet Providers" object. This utility is located in the Internet Utilities Subfolder, inside of the Internet Connection folder. If you double-click on this object, it will bring up a menu to manually configure a third-party Internet connection. Let's examine the different procedures needed for SLIP or PPP-type accounts. (If

Upgrading BonusPak applications

If you've already configured a SLIP connection successfully, it's much easier to download and install maintenance upgrades. New versions of the Dialer utility, UltiMail Lite, NewsReader/2, and WebExplorer are all available for downloading on IBM's FTP server. All you need to do is start a connection with the IBM or Alternate Service Dialer, then double-click the "Retrieve Software Updates" object. A list of available files will pop up, allowing you to select, download and install each upgrade in one operation. (You can also download the upgrades manually with the PM-FTP utility located in the Internet Utilities subfolder: log into *ftp01.ny.us.ibm.net* as **anonymous** and use your email address as the password.)

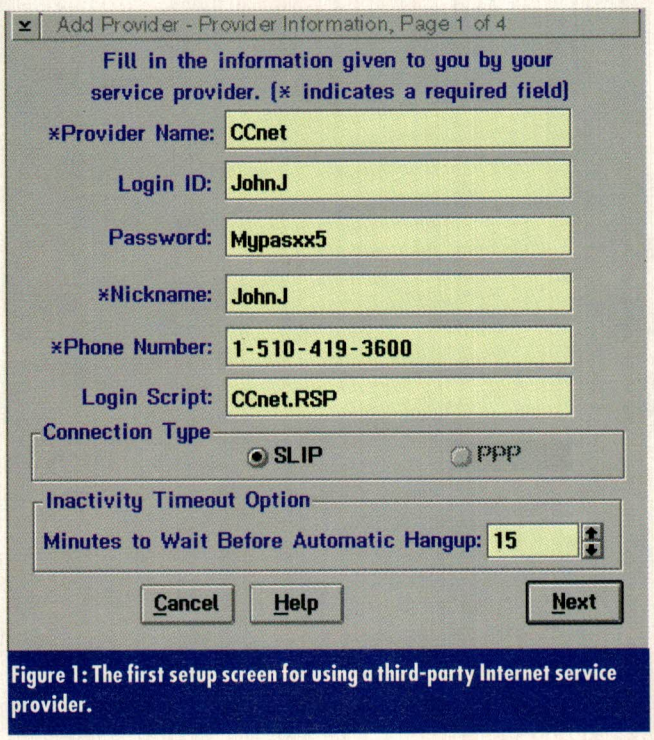


Figure 1: The first setup screen for using a third-party Internet service provider.

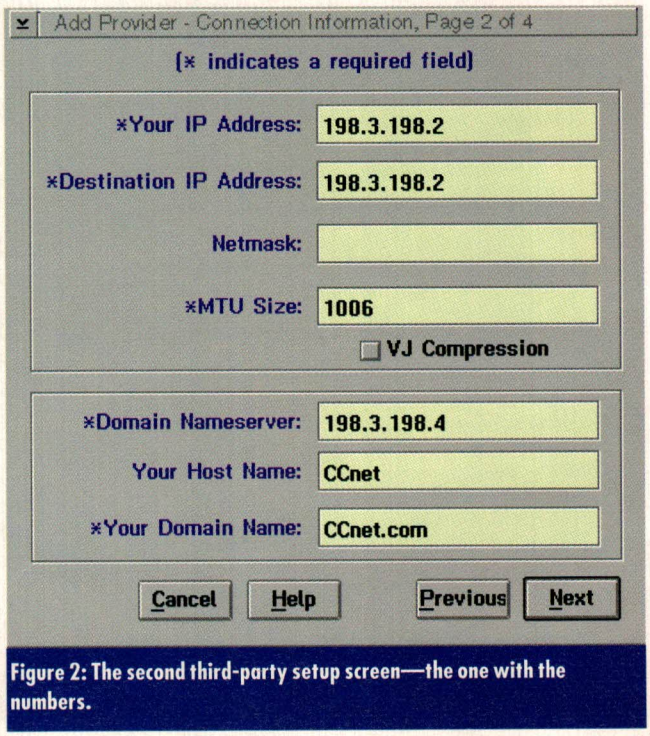


Figure 2: The second third-party setup screen—the one with the numbers.

your third-party provider gives you a choice, most people recommend PPP as being more efficient.)

SLIP accounts

If you double click on the "Dial Other Internet Providers" object, it will bring up a menu that allows you to manually configure a connection to a third-party Internet service. With the older OS/2 Warp "for Windows," you'll initially be limited to configuring the third-party dialer for a SLIP account. Click on the "Add Entry" button and examine the information boxes on the first page. You'll need to enter the name and telephone number of the provider, your user name and password, and some additional technical information the service provider should make available. You may need to use a special login script to establish the connection. Initially, try leaving the box marked Login Script blank. After you enter the other parameters, close the configuration dialog and click on the "Dial" button. If the dialer doesn't connect, you'll need to add instructions in a login script.

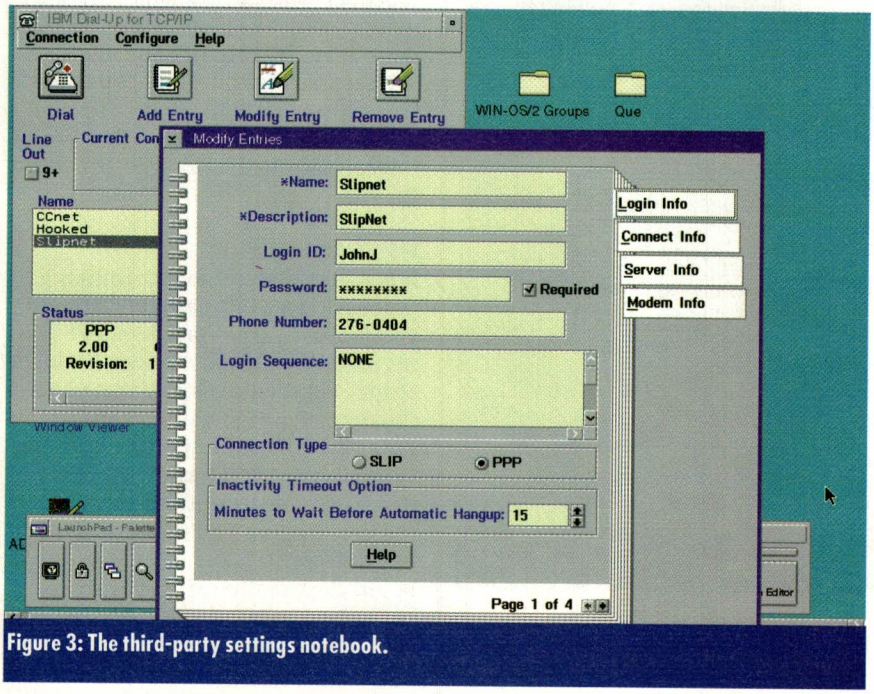


Figure 3: The third-party settings notebook.

Login scripts come in two flavors: *.cmd* files that set protocol parameters through REXX, and *.rsp* files that simply echo text-strings to the modem. The *.rsp* files are much easier to work with.

Many SLIP service providers will rec-

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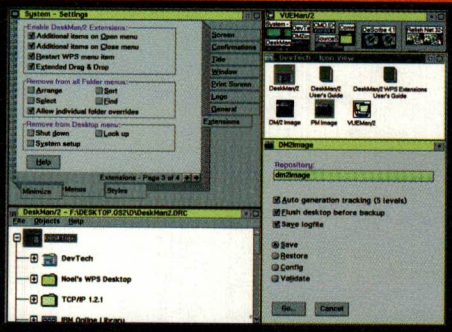

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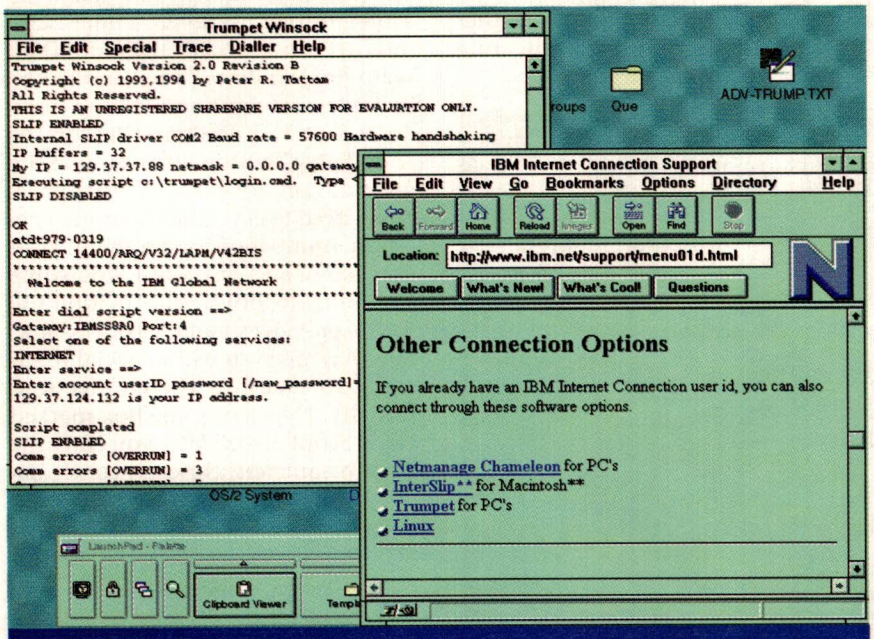
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Trumpet Winsock Version 2.0 Revision B
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SLIP ENABLED
Internal SLIP driver COM2 Baud rate = 57600 Hardware handshaking
IP buffers = 32
My IP = 129.37.37.88 netmask = 0.0.0.0 gateway
Executing script c:\trumpat\login.cmd. Type
SLIP DISABLED
OK
atdt979-0319
CONNECT 14400/ARQ/V32/LAPM/V42BIS
Welcome to the IBM Global Network
Enter dial script version ==>
Gateway: IBMSS0A0 Port:4
Select one of the following services:
INTERNET
Enter service ==>
Enter account userID password [/new_password]
129.37.124.132 is your IP address.
Script completed
SLIP ENABLED
Comm errors [OVERRUN] = 1
Comm errors [OVERRUN] = 3
OS/2 System
Clipboard Viewer
ADV-TRUMP.TXT
IBM Internet Connection Support
File Edit View Go Bookmarks Options Directory Help
Location: http://www.ibm.net/support/menu01d.html
Welcome What's New! What's Cool! Questions
Other Connection Options
If you already have an IBM Internet Connection user id, you can also connect through these software options.
Netmanage Chameleon for PC's
InterSlip** for Macintosh**
Trumpet for PC's
Linux

Figure 4: The IBM "Other Connection Options" page.

ognize the default commands issued by the Alternate Dialer. For these services, all you need to do is pass a telephone number, user name, and password to the modem. The *sample.rsp* file found in the *\tcpip\etc* directory contains easy-to-follow instructions for setup. A line beginning with # is documentation for your own use; all other lines are treated alternately as **TRANSMIT** and **WAITFOR** strings. A simple *.rsp* login script might look like this:

```
#Reset your modem first
ATZ
#Wait for the following modem
response
OK
#Dial the number for your
service provider
ATDT1-510-419-3610
#wait for the connect prompt
Login:
#enter your login username
JohnJ
#wait for the password prompt
Password:
#Enter your password
Mypasxx5
```

If you prefer to be macho and grapple with *.cmd* files, OS/2 Warp supplies several canned login scripts for national service providers. Running these scripts may yield interesting results. Some people are able to get them work instantly, while others gnash their teeth as the modem refuses to dial, or the connection is not established. If you already have access to Internet via a UNIX shell account, you can locate a series of supplemental login *.cmd* scripts in a file called *slipmods.zip*, available for anonymous download at *hobbes.nmsu.edu/os2* and several mirror sites in the *os2/32bit/network* directory. If the REXX scripts supplied in the Bonus Pak won't work with your service provider, one of the scripts from the Hobbes site may do the trick.

PPP accounts

If you already have, or are thinking of purchasing a third-party PPP account, you face a different problem. PPP connections don't require third-party login scripts, but they do require that you use the upgraded IBM dialing software. If you have the older OS/2 Warp "for Windows," you'll have to obtain the dialer upgrade before you can set up a PPP connection. You may find the PPP upgrade posted on a local bulletin board devoted to OS/2, but the only sure place to obtain it is on the IBM Internet file server devoted to software upgrades. If you already have an Internet dial-up account, log in with your favorite telecommunications program and issue an ftp command from a UNIX prompt as follows:

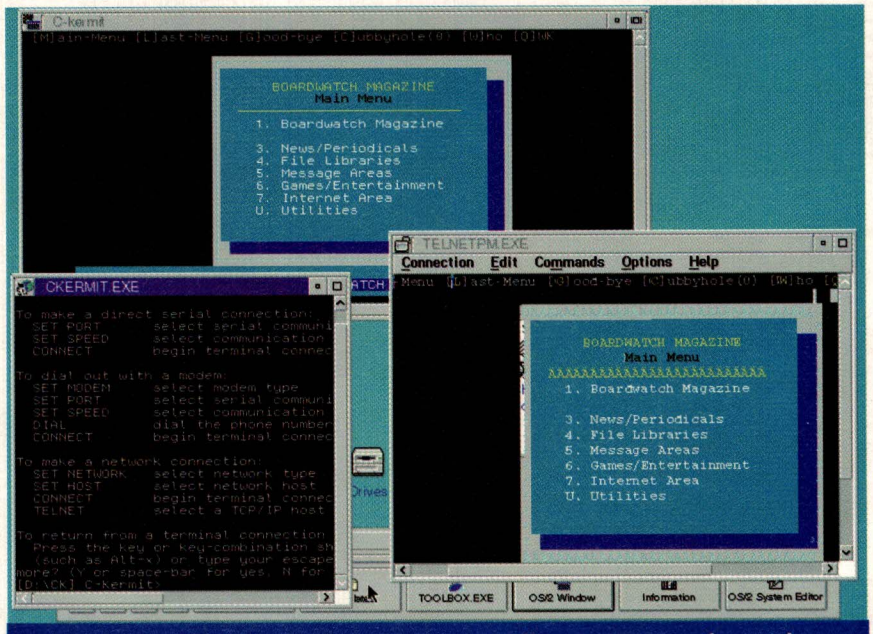

Figure 5: The C-Kermit package from Columbia University offers true VT100 emulation, where Warp's Telnet-PM scrambles upper ASCII characters. C-Kermit can also be used as a dedicated telecommunications program.

```
FTP ftp01.ny.us.ibm.net
```

When the login prompt appears, log on as **anonymous**. For a password, enter your e-mail address from the dialup provider. Enter the command **ls** (list files and directories) at the ftp> prompt and you will see a series of directories. **CD** (change directory) to the directory *pub/ppp* and issue another **ls** command. Assuming you see *readme.ppp* and *ppp.zip* listed, retrieve both files to your Host Server (at the dial-up provider) with the **GET** command, then download them to your local PC. Read the *readme.ppp* file, then unzip *ppp.zip* and run the installation program. This will install the updated SLIP/PPP dialer on your hard disk.

Note that many service providers who issue PPP accounts will also provide you with a dial-up shell connection to the Internet at no extra charge. You don't need the IBM Internet Connection or the underlying TCP/IP software to download files from the IBM Internet server. All that you need is a dial-up account that permits you to perform FTP remote transfers from a text-based command prompt.

The PPP upgrade can be used to connect to a third-party service through either a SLIP or a PPP account, since it completely replaces the "Dial Other Internet Providers" object included in the BonusPak. In fact, even if you have a SLIP account, it's to your advantage to download and install the PPP upgrade, which enhances performance and reliability of SLIP as well as PPP connections.

Some users may prefer to conduct their Internet business through Windows sessions instead of using the Workplace Shell.

TIA /SLIP emulation

Several Internet providers offer Internet access through proprietary Windows front-ends or dial-up connections, but also permit users to emulate a SLIP connection. This is accomplished with a UNIX utility called TIA. If your host system has implemented TIA, it is usually invoked from a dialing script, after your login and password have been accepted. To activate SLIP emulation with this type of account, all you need to do is add the TIA command to your *.rsp* login script. Enter the string "TIA" after the lines in the script that send your password and wait for the Host's acknowledgment prompt.

Using Windows TCP/IP

Some users may prefer to conduct their Internet business through Windows sessions instead of using the Workplace Shell. Eudora, a fine Windows mail utility, is easier to use than the cumbersome UltiMail Lite. A variety of third-party newsreaders, gophers, ftp utilities, and Web browsers have also been written for the Windows environment. Some users have become accustomed

Debugging the Internet Connection

Here's a brief summary of some problems and fixes relating to various components of the IBM Internet Connection:

Problem: Difficulty maintaining a modem connection.
Solution: Download the updated version of *slip.exe* from the IBM Bulletin Board and copy it to your hard disk's *\tcpip\bin* directory. Improved versions of the *com.sys* and *vcom.sys* communication drivers are also available.
Problem: NewsReader/2 options.
Solution: If you're an early user of OS/2 Warp "for Windows," you might have an obsolete version. Download the v. 1.09 upgrade module from the IBM ftp site.
Problem: If you read a series of messages in a newsgroup and then close the session, NewsReader/2 has no menu option for getting the messages back again.
Solution: Move these messages back into the "Unread" window. In the *\tcpip\bin\etc\rnspool\"username"* subdirectory, the *news.grp* file lists all of the message numbers the NewsReader considered "disposed of." If you delete this file and restart NewsReader/2, all the messages currently available on the News server will reappear as "new" again.
Problem: Although WebExplorer is supposed to support ftp directly, it behaves erratically, often refusing to download files when you click on an ftp menu link.
Solution: IBM is aware of the problem, and a maintenance upgrade is expected soon to correct it. In the meantime, if you can get hold of the corrective services disks for the full version of IBM TCP/IP, you can substitute the version of *inet.sys* on the disk for the later *inet.sys* file located in the *\tcpip\bin* directory on your hard disk.
Problem: The VT-100 emulation is flawed in both the full-screen and PM versions of Telnet. Color and ANSI graphics don't display correctly, and you may find your cursor misplaced if you use an on-line editor such as PINE or JOE.
Solution: An excellent shareware utility called C-Kermit for OS/2 is available for download at the Columbia University anonymous FTP site, *kermit.columbia.edu*—look for *cko140.zip*. C-Kermit offers full-screen and windowed Telnet with reliable VT100 emulation, and is also a full-featured telecommunications program.

UltiMail Lite suggestions

First, don't attempt to reinstall UltiMail on top of an existing copy that has problems. If you want to reinstall from the BonusPak CD-ROM, first delete all files in the UltiMail directory and do a clean refresh. (An exception to this is if you use the Retrieve Software Updates object to automatically download and install the UltiMail upgrade. Before installing the Upgrade, you should make a separate backup copy of the original CD-ROM file *sendmail.exe*. Several people in usenet newsgroups forums have reported that restoring the old version of this file to the *\tcpip\bin* directory cures some bugs that persist in the upgrade package.

Second, if your UltiMail Inbox or other objects in the UltiMail Lite folder disappear, you may be able to reclaim them by running the *ifolder.exe* utility in the *\tcpip\bin* directory followed by the *makeidx.exe* utility.

to these packages, and prefer to continue using them. Windows Internet utilities can be run in a full-screen Win-OS/2 session once a connection to the Internet is made through one of the IAK Dialers. Some Windows programs will also run in seamless sessions: Air Mosaic, W_FTP, and Eudora all run well in seamless windows, whereas Netscape prefers a full-screen session. Trial and error is the best way to find out whether a particular Windows application works better in a full-screen or a seamless Win-OS/2 session.

A little-known fact about Win-OS/2 sessions is that you can also use Windows TCP/IP packages like Chameleon or Trumpet Winsock to dial into a SLIP or PPP account. Trumpet Winsock includes a convenient feature that toggles a host connection back and forth from SLIP or PPP to a straight VT100 dial-up. This obviates the need for complex login scripts. The drawback to using Windows TCP/IP instead of the Bonus Pak is that you're limited to Internet access from Windows programs, instead of being able to use the entire Workplace Shell.

To use a Windows TCP/IP dialer, install it in a full-screen Win-OS/2 session, just as you would in Windows 3.x running under DOS. A large number of login scripts for Windows TCP/IP dialers are available at various Internet sites. If you're not able to connect to your third-party service with IBM's Dialing utilities, chances are that a compatible Windows login script will be available for the widely-used Trumpet or Chameleon TCP/IP packages.

You can also use Windows TCP/IP to connect to an IBM/Advantis account on a computer where the OS/2 Bonus Pak isn't installed. Advantis has login scripts available for all major Windows TCP/IP vendors. These scripts can be obtained through an e-mail request or by clicking on the support option at the bottom of the IBM Internet Connection home page on the World Wide Web.

Lenny Bailes is a writer, teacher, and consultant in the San Francisco Bay Area. He can be reached via CompuServe at 70713,562.

RESOURCES

IBM World Wide Web Home Page Address: *http://www01.ny.us.ibm.net*
IBM ftp Address: *ftp01.ny.us.ibm.net*
Windows Eudora: QualComm (1-800-238-3672; *Ftp.Qualcomm.Com*)
C-Kermit: Columbia University (*kermit.columbia.edu*)
Various OS/2 Internet enhancements and TCP/IP scripts: *hobbes.nmsu.edu/os2* in the *32bit/networking* subdirectory)

The following Internet service providers, located in the San Francisco Bay Area, provided me with PPP connections that helped me compose this article:

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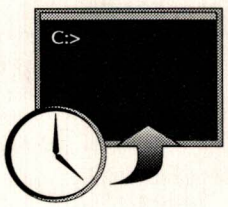

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Become an OS/2 Engineer

Everything you ever wanted to know about OS/2 certification.

By Emmett Dulaney

When computer professionals talk, acronyms fly around the room like bullets from a chain gun: CNA, CNE, ECNE, CNI, and more; sometimes this is technical jargon, but other times it refers to the technical *qualifications* of various computer specialists. The acronyms are multiplying, too: On the heels of Novell's phenomenal success with their CNE (Certified NetWare Engineer) program, virtually every major software vendor has started a certification program of their own. IBM is no exception to this approach, offering certification in two key areas, OS/2 and LAN Server.

Since IBM began their certification program in May 1994, about 7,500 people have taken the OS/2 or LAN Server tests, about 1,000 people are now certified, and about 1,500 are in the middle of the certification process. While LAN Server offers two certification possibilities, Administrator or Engineer, the only OS/2 endorsement is that of Engineer. Our focus here is on the Certified OS/2 Engineer program.

Why certify?

Certification offers, at least in theory, a method by which professionals can demonstrate their proficiency with products and knowledge with software and operating systems. Being recognized for having proven your knowledge, the chain of reason continues, you are then more attractive to employers as well as to prospective customers that you come in contact with. We use the terms "in theory" and "chain of reason," of course, because everyone's all-too familiar with "paper engineers," those who have successfully answered enough multiple-choice questions to become certified, yet have never touched the product and would not be able to solve a problem to save their life—or their clients' data.

To become certified as an OS/2 Engineer, you must pass several tests offered by Drake Prometric (formerly known as Drake Testing and Technologies). You have one year after taking the first test in which to successfully complete all of them. Upon completion of the final exam, a Certification Agreement is mailed to you offering acceptance to the Engineer rank if you agree to certain terms and conditions. Assuming you do so, you are then able to use the certification logo on your business cards or other marketing material. You'll also receive free subscriptions to several IBM publications, including *Personal Systems Technical Solutions*, *Personal Software Technical Newsletter*, and *LAN Systems Newsletter*.

The tests

Each test consists of a number of multiple-choice questions regarding OS/2. You must score the minimum passing rank in order to successfully complete the test. The minimum passing score is usually 70%, but since the certification process is still in its infancy, that number is expected to fluctuate somewhat. A classic example of this is with the now-obsolete Performance and Tuning test: So many people were failing, due to tricky wording of the questions, that the passing percentage dropped into the low sixties.

Don't be lulled into a false sense of security, even if you work with OS/2 every day. The truth is, many questions focus on obscure facts and features. Do you know how many books ship with each product? Their titles? How many days of direct phone-line support is included with each new purchase? It pays to study and fill your head with as many minuscule details as possible prior to taking any of the exams.

Prior to restructuring the testing process during inclusion of OS/2 Warp 3.0 material, there were four multiple-choice tests that a candidate had to pass. During the restructuring for OS/2 Warp, to be effective April 1, 1995, the program was changed to include only three tests:

- **Test #009 Installing, OS/2:** Focuses on planning and installation of the product. Current and past versions are addressed, as well as performance considerations and configuring for DOS and Windows.
- **Test #010, Using and Customizing OS/2:** Concentrates on how the everyday features are used. The Workplace Shell is a popular topic, as are ways of customizing it, and navigating with and without the mouse.
- **Test #012, Supporting OS/2:** addresses *config.sys* parameters and their purpose. Test questions also center on problem determination and methods of recovering from errors.

Each test from Drake costs $100 to take. If you fail a test, it costs full price to take it again.

While there is no specific test for general PC knowledge, it's strongly recommended that a solid background in PC fun-

LAN Server certification.

LAN Server certification is available in two different forms: administrator or engineer. To become certified as an administrator, you only need to pass one test: #003, OS/2 LAN Server Administration I. To raise the certification to engineer status, four more tests and one elective must be taken. The four tests are:

- **#009:** Installing and Supporting OS/2 (if you are already certified as an OS/2 Engineer, then you have already fulfilled this requirement).
- **#004:** OS/2 LAN Server Administration II.
- **#006:** OS/2 LAN Server Workstation Planning and Installation.
- **#007:** OS/2 LAN Server Performance.

The elective requirement is waived if you are certified as a Novell Certified NetWare Engineer, or can show a passing grade on Novell's Networking Technologies test (#050-081). If not, you can choose from one of the following tests:

- **#001:** Token-Ring Network Implementation and Management.
- **#002:** OS/2 LAN Server and NetWare Client Coexistence.
- **#005:** An Introduction to Integrated Networking.
- **#008:** Ethernet Implementation and Problem Determination.
- **#016:** DSM, Remote Software Installation Using CID.
- **#018:** IBM TCP/IP for Workstations.

The IBM certification agreement.

After passing the three OS/2 Engineer certification courses, you'll need to sign a Certification Agreement with IBM to take advantage of your new status. The two-page form is concise and benign; when IBM accepts the application, you're entitled to use various logos and service marks in your promotional material.

One important point IBM's agreement form makes is that, in some states or localities, the use of the title "Engineer" is regulated by local law. Texas, some Canadian provinces, and other places reserve the title Engineer for individuals with certain academic or other qualifications; the burden is on you to determine if you can use the title "OS/2 Engineer."

The Agreement further states that it's your obligation to pay all fees for testing and training, and you agree to conduct your business in such a way as not to "adversely affect our reputation or goodwill." However, IBM reserves the right to "at our sole discretion" determine whether your services meet Big Blue's standards.

The contract is too vague on this point. As written, it's possible that IBM might interpret a disloyal OS/2 Engineer's sales or support of competing hardware, software, or services as adversely affecting their reputation or goodwill. The contract also stipulates "Either of us may terminate this Agreement or your certification, with or without cause, on one month's written notice."

One final note: IBM has reserved the right to require additional qualification in the future for you to *keep* your certification, again at their sole discretion.—*Alan Zeichick*

Installing OS/2 sample questions.

1. How many partitions can a hard drive be divided into?
A. 1
B. 2
C. 4
D. 8

2. How many extended partitions can be defined on a hard drive?
A. 1
B. 2
C. 4
D. 8

3. More than one printer port, identically configured, going to one printer object is:
A. Spooling
B. Sharing
C. Pooling
D. Unacceptable

4. Workplace shell defaults are stored in:
A. *os2sys.ini*
B. *config.sys*
C. *startup.cmd*
D. *os2.ini*

damentals be considered a prerequisite. IBM *does* offer training courses in the areas covered, but these classes are not required to take the certification tests. The course materials used in those classes can be purchased from Skill Dynamics, or refer to the *OS/2 Engineer Certification Handbook,* which provides information necessary to pass the tests. Let's look at each of the three new OS/2 Warp-era tests in more detail.

Installing OS/2

IBM uses nine key sections, or clusters of objectives, in the Installing OS/2 test. The objectives are considered to be the most important components of OS/2 installation. These nine objectives are broken into sub-objectives, and test questions are written to reflect whether or not a testee has knowledge of each component. Here is a listing of those nine key components:

1. **Differences between versions of OS/2:** You are required to know general information about OS/2 2.1, OS/2 2.11, and OS/2 Warp 3.0 You must know what the differences are between versions with Win-OS/2 and those without, and the minimum system requirement for each.
2. **OS/2 Warp installation:** You need to know RAM and hard-drive space requirements, installation media, hard-disk formatting during installation, and the amount of required swap space. Additionally, you must know how to add and delete features, as well as configure VGA, SVGA, and XGA.
3. **Hard-disk management:** The focus is on FDISK, Boot Manager, and coexistence with DOS and Windows on the same hard drive.
4. **Alternative installations:** Dual boot and the steps necessary to install it are crucial components of wisdom, as well as the BOOT command and its parameters.
5. **Printer installation:** Here, it's important to know about printer objects, drivers, settings, printer pooling and sharing, the differences between them, and methods of disabling the spooler.
6. **Fonts:** The important thing to remember is Adobe Type Manager.
7. **OS/2 system files:** It is imperative to understand the purpose and function of *os2.ini*, *os2sys.ini*, and *config.sys*. The SET command, LIBPATH

Use and configuration sample questions.

5. Switching from window to full screen in a DOS application can be done with:
A. <Alt+Tab>
B. <Ctrl+Esc>
C. <F1>
D. <Alt+Home>

6. *Startup.cmd* exists to:
A. Start applications after bootup
B. Save configurations when you exit
C. Store extended attribute information
D. Provide file association by file type

7. File Systems supported under OS/2 include:
A. Just HPFS
B. HPFS and DOS
C. HPFS, DOS and Windows
D. DOS and Windows

8. Drag-and-drop operations are done with:
A. The right mouse button
B. Shift and the right mouse button
C. The left mouse button
D. Shift and either mouse button

statement, and *autoexec.bat* files are also significant.

8. **Applications support:** How is DOS and Windows support implemented? What about memory extenders and unique application configurations? How can *autoexec.bat* be tailored separately for each window, and how can DOS settings be used to improve memory?
9. **Redirected installation:** It is important to know how a CID (configuration, installation, and distribution) response file is made and used, as well as how OS/2 can be installed without any manual intervention.

Using and customizing OS/2

While there are 16 "key" objective components to this test, the using and customizing OS/2 test is by far the easiest to pass for anyone who has worked with OS/2 for any time. Be careful, however, not to treat the topic too lightly—cruise through your OS/2 manual at least once before signing up for the exam:

1. **Concepts behind OS/2:** Objects, multitasking, preemptive multitasking, and key features.
2. **Mouse operations.**
3. **Basic operations:** Visual cues when a folder is open, different object views, and ways of making menu selections.
4. **Window manipulation:** Including maximizing and minimizing, as well as hiding, restoring, moving, and resizing.
5. **On-line help:** Different methods by which it can be accessed.
6. **Desktop object:** and ways to move the LaunchPad to the foreground and background.
7. **Menus and notebooks:** and how to change the default view of objects. You must also know how to drag, drop, and change an icon and modify pop-up menus.
8. **Template objects:** Creating objects, and using them to create new objects.
9. **The file system:** How to find objects, undelete them, copy them to floppy disk, and use extended attributes. It also pays to know how to format a disk and use command prompts.
10. **Running applications:** OS/2, DOS, and Windows concurrently, in full screen, and by direct manipulation and association.
11. **Installing applications:** Including how to install DOS, Windows, and OS/2 applications. Knowing about the association between applications and data files is a key of enlightenment to several possible questions.
12. **System startup:** Primarily *startup.cmd*.
13. **Printing:** Using menu selections and direct manipulation. You should also know about printer settings and print-job properties. How to hold and release the print queue and organize printer jobs is crucial knowledge.
14. **Customizing:** with the color and scheme palettes, and change the type ahead feature. You should know how to configure LaunchPad features including drawer behavior, icons and buttons.
15. **Lock the desktop:** Shutdown the system and configure the Desktop to look the same after each boot.
16. **Using the Workplace Shell more efficiently:** using the fast-load option, configuring clipboard access, disabling other performance-limiting features.

Supporting OS/2

The knowledge objectives necessary to understand and pass the Supporting OS/2 test are based on seven key components. From a purely subjective standpoint, this is the hardest of the three tests, and requires that you truly do know and understand OS/2.

1. **Obtaining information about the installation and its environment:** These questions involve using the on-line documentation, VER /R, SYSINFO, RMVIEW, and the Resource Manager. It also pays to know about the UNPACK command and how to obtain additional information about error messages.
2. **Understanding the boot process and the steps involved in it:** These questions involve how to make and use emergency diskettes, as well as how to use other recovery tools. You should also know how to use the

Sample OS/2 support questions.

9. In *config.sys*, which is not an environmental variable:
A. PATH
B. LIBPATH
C. EPMPATH
D. All of the above

10. System thread space is allocated:
A. Dynamically
B. Based upon the size of the partition
C. Based upon the amount of memory installed
D. In the *config.sys* file

11. What is the purpose of SET RESTARTOBJECTS
A. To restart applications that were running at shutdown
B. To revive objects killed by runaway processes
C. There is no such available parameter
D. To limit the number of objects that can run simultaneously

12. What is the purpose of SET OS2_CONFIG
A. To redirect the configuration file used at startup
B. To customize configuration for applications or users
C. There is no such available parameter
D. To allow customization of the Boot Manager

Recovery Choices screen to correct problems that can occur on boot.

3. **Video issues:** Identify common problems and how to fix them. Which statements in *config.sys* apply to video? What is the *svgadata.pmi* file used for?
4. **Printer issues:** It's recommended that you know about *prdesc.lst*, and how to determine if a printer will work if it's not listed in that file. Know the advantages of pooling and sharing, as well as printer polling. A note to store in the back of your mind is that printer problems can often occur after sound-card installation.
5. **Individual *config.sys* statements:** If you study nothing else, study this file (notice that it appears in all three tests). Statements to pay particular attention to include RUNWORKPLACE, BOOKSHELF, and DISKCACHE.
6. **Recovery tools:** BACKUP, RESTORE, RECOVER, XCOPY, and CHKDSK. You should know how to rebuild, recreate, and restore *.ini* files, use the archive function, and recover corrupted desktop objects. <Alt+F1> is an important key combination to remember.
7. **System dumps:** You must know their purpose, appropriateness, and steps required to perform them.

Instructor status

Once certified as an engineer, you can become certified as an OS/2 instructor by requesting an application from IBM. One catch is that you must sit through any class that you expect to teach, and mail a copy of the course completion certificate to IBM before you are able to teach that topic. It is also expected that you have one year of teaching experience or complete one of IBM's instructor-training courses.

Emmett Dulaney is a Certified OS/2 Engineer and a product developer for New Riders Publishing. He can be reached at 74507.3713@compuserve.com.

RESOURCES

To register for any of the Drake tests, or to get additional information about certification, call Drake Prometrics at (800) 959-3926.

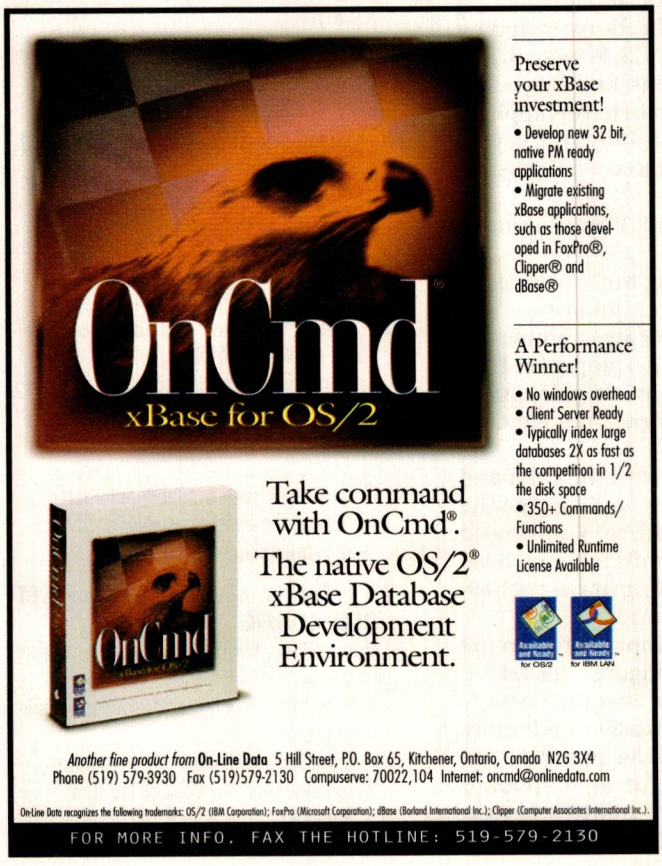
To get information about available classes, or inquire about purchasing the Skill Dynamic course materials, call the IBM training department at (800) 426-8322.

OS/2 instructor applications are available from IBM at (800) 426-4329 as document #2331.

The recommended reference for taking the exams is the OS/2 Engineer Certification Handbook ($89.99), by Bruce Hallberg and Kathy Ivens, available at your local bookstore or from New Riders Publishing, ISBN 1-56205-407-4.

Answers:

1. C	7. B
2. A	8. A
3. C	9. B
4. A	10. D
5. D	11. A
6. A	12. C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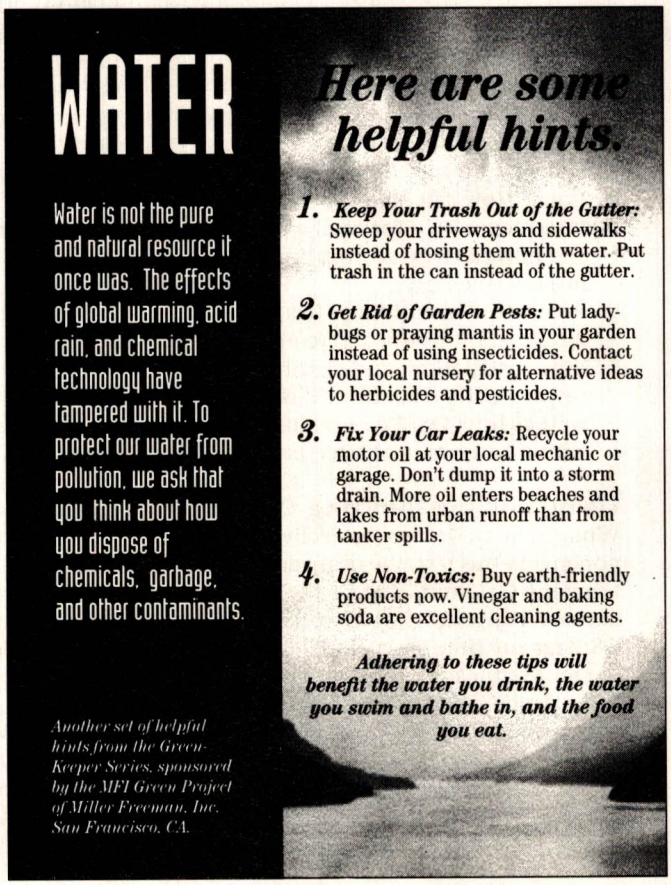
WATER
Water is not the pure and natural resource it once was. The effects of global warming, acid rain, and chemical technology have tampered with it. To protect our water from pollution, we ask that you think about how you dispose of chemicals, garbage, and other contaminants.
Another set of helpful hints from the Green-Keeper Series, sponsored by the MFI Green Project of Miller Freeman, Inc. San Francisco, CA.
Here are some helpful hints.
1. Keep Your Trash Out of the Gutter: Sweep your driveways and sidewalks instead of hosing them with water. Put trash in the can instead of the gutter.
2. Get Rid of Garden Pests: Put ladybugs or praying mantis in your garden instead of using insecticides. Contact your local nursery for alternative ideas to herbicides and pesticides.
3. Fix Your Car Leaks: Recycle your motor oil at your local mechanic or garage. Don't dump it into a storm drain. More oil enters beaches and lakes from urban runoff than from tanker spills.
4. Use Non-Toxics: Buy earth-friendly products now. Vinegar and baking soda are excellent cleaning agents.
Adhering to these tips will benefit the water you drink, the water you swim and bathe in, and the food you eat.

Shareware Everywhere

Don't limit yourself to retail channels next time you're looking for OS/2 applications. By John Wagner

You can throw a cat through it. That's how I would characterize the current state of the retail software market for OS/2. To be a little more descriptive: There are a lot of holes. Despite the thousands of packages listed by IBM's applications directories, retail software developers and distributors have been very slow to embrace the OS/2 market. As a result, very few native OS/2 software packages are available on the retail market compared with native Windows applications. The number of high-quality retail packages are few. All of these observations probably come as no surprise to anyone who's been using OS/2 for any amount of time.

It was of no small consequence that WordPerfect dropped OS/2 development of version 6.0 of their flagship word processor. It was said in days past that WordPerfect was the measure of the acceptance of a new operating system. Legions of WordPerfect users clung to DOS until WordPerfect 5.2 for Windows was equal in features (and then some) with the DOS version of the software. True, the new Windows version of WordPerfect, 6.0A, hopes to gain acceptance in the OS/2 community (see "Test Drives," *OS/2 Magazine*, Sept. 1994, p. 18), but this fact only underscores the weakness in the native OS/2 channel.

This lack of native OS/2 applications presents quite a dilemma for OS/2 users. One school of thought is to utilize DOS and Windows programs until an acceptable OS/2 program that performs similar functions becomes available. While this solution may suffice for some, many of us prefer to use native OS/2 software. Luckily, one particular source of native OS/2 software is growing and expanding every day. That source is "shareware."

So what is shareware?

Shareware isn't a new concept; it has been around for years. For those who haven't heard of it before, here is a brief explanation: Shareware is a *distribution method*, not a *type* of software. Shareware is software you can try before you buy. You try it on *your* machine, with *your* operating environment, on *your* terms. If it fits a need and you decide to continue using the program, you pay for it. Compare this method to buying retail software, which you must evaluate by looking at a cardboard box, reading jargon-filled reviews, and paying for it before you ever see it run or are able to evaluate the feature set and user interface.

Shareware allows you to evaluate many packages, legally and ethically. The people who create and market shareware are known as "authors." When you find a program you like and pay for it, your payment goes directly to the author of the program. This method avoids the middleman, and usually results in carefully constructed, useful, very low-priced, good quality software that you know you'll use because you've already tried it. OS/2 shareware authors are usually very strong OS/2 advocates. In fact, they are among the most vocal of OS/2's supporters—not only with words, but with their time and effort.

New 32-bit native OS/2 applications are being released every day. The shareware channels are teaming with OS/2 programs, and they're out there just waiting to be used. Shareware is put to use in corporate settings every day. During the course of writing this article, I talked with users from around the world, from system engineers, to magazine editors, to bank managers. They all used OS/2 at work and they relied on shareware programs to get their job done.

Authors usually upload their software directly to on-line services like CompuServe, electronic bulletin boards (BBSs) and various Internet sites. From there, the software is downloaded and distributed by people like you. You are usually allowed and encouraged to distribute the evaluation copy of a shareware program—that's how the program gets around. A good shareware program will usually make it around the world within a day of its release. It's an incredible distribution system!

Interestingly enough, shareware applications have had a number of "firsts" in OS/2's history. AlarmPro from WalkerWerks is an excellent contact manager and event scheduler. It was also the first 32-bit contact manager for OS/2. Its timeliness isn't a coincidence; shareware authors are rarely held back by production schedules and red tape in the way a retail software house would be—they finish writing and testing a package and upload it for evaluation by other users.

New shareware packages appear almost daily. One reason for the influx of OS/2 shareware is that programmers have taken a liking to OS/2 as a development platform. Programmers have a tendency to create applications for their own use, and a lot of times these programs end up as shareware. What's most interesting is that shareware use isn't limited to the home or casual user. Shareware has been showing up in business and corporate offices and it's there to stay.

Corporate uses of OS/2 shareware

James Fallows is the Washington Editor of *The Atlantic Monthly* magazine. He swears by a shareware program called "QwikSwitch," written by BitWare Consulting's Claude Biron (see "Test Drives," *OS/2 Magazine*, July 1994, p. 53). Mr. Fallows found out about QwikSwitch from a message on a CompuServe forum soon after he started using OS/2 2.0. "From the second I saw it, I knew QwikSwitch was for me," he states.

QwikSwitch allows a user to assign hot-keys to applications and Workplace Shell (WPS) folders and objects. This ability fills a crucial gap in the WPS—if you have a window maximized and a modal dialog box comes up, you can't get to your desktop to start another application or open a folder. As Mr. Fallows puts it, "I'm a pro-keyboard, anti-mouse guy, and QwikSwitch allows me to switch from program to program without bothering with the mouse."

One important aspect of shareware was really hit upon by Mr. Fallows: if a shareware product is "popular," it's an indication that the software is usually very dependable. People don't register shareware that causes system crashes. "I'm confident in QwikSwitch, it's a very stable product, and I use it thousands of times a day." That's a pretty strong testimonial from someone who obviously relies heavily on his system for work.

AlarmPro is another popular shareware program (see "Organize Your Life," *OS/2 Magazine*, Dec. 1993, p. 64). As I mentioned earlier, AlarmPro has the distinction of being the first 32-bit scheduler available for OS/2. According to WalkerWerks' Bryan Walker, the author of AlarmPro, "The program is used in many corporate environments by systems administrators who need to automate the back-up of database servers, and to control the availability of communications terminals during certain times of the day." AlarmPro has many, many features, and I can't possibly do it justice in this short paragraph. It's well worth taking the time to try, and is certainly priced within most anyone's budget (only $45 to register).

Shareware for OS/2 has also gained international acceptance. Brian Renwick is a Senior Manager at The Hong Kong and Shanghai Banking Corp. Ltd., one of Hong Kong's largest banks. Running OS/2 makes Mr. Renwick somewhat of a maverick in his office, and the fact that he relies on a shareware product to get his work done speaks highly for the quality of the software.

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Using and paying for shareware

Shareware isn't free; all shareware has a registration fee, which is usually less than what comparably priced commercial software would cost. Why should you pay for shareware? First, it's the honest thing to do. All shareware products are distributed by their authors along with clear notices that it isn't free software, and that if you use a product on a regular basis, you are expected to pay for it. Another reason is that by paying for shareware, you encourage the shareware author to keep improving on the product, to provide technical support, and even to write and distribute new shareware products.

Some shareware programs come complete with pesky windows that pop up to remind you to pay. Upon payment, the shareware author tells you how to turn that annoying feature off. Other authors give you keys to unlock additional software capabilities, upgrade you to a higher-performing version, or send you the next version for free.

Please note that when you pay for a shareware disk, you're usually not paying for the shareware. If you purchase the Hobbes CD-ROM, or buy a shareware floppy disk for $5 from a computer store, that money does not go to the shareware author; it's pocketed by the *distributor*. If you regularly use a program found on the Hobbes disc or one that was purchased as part of a shareware collection, you should still register and pay the shareware author for that use.

Share and share alike

There are many sources of OS/2 shareware. Shareware has a long history with BBSs and other on-line services. You can also get CD-ROM disks full of OS/2 shareware. One of the most popular is the Hobbes OS/2 collection available from Walnut Creek CD-ROM (See p. 36 of this issue and "Test Drives," OS/2 Magazine, April 1994, p. 19). Hobbes is a direct copy of the largest Internet FTP archive of OS/2 material, *ftp-os2.cdrom .com*. This $29.95 CD-ROM is updated regularly, and contains hundreds of megabytes of programs, games, icons, free utilities, compilers, and more.

The OS/2 shareware channels are also chock full of demos of commercially available programs, as well as fully functional *free* software (often called "freeware"). Of particular interest to programmers is a product called Guidelines, a complete visually oriented C++ development environment for OS/2. The base Guidelines package is free, and is usable straight out of the box. To really take full advantage of Guidelines, you'll most likely want to order the add-on modules, which *do* cost money. If nothing else, Guidelines is worth taking a long look at, it's an outstanding piece of software, regardless of your preferred operating system.

Assocation of Shareware Professionals

In 1987, a group of shareware authors banded together and created the Association of Shareware Professionals, or ASP. The ASP's goal was to promote the use of shareware by coming up with ideas for marketing, establishing a set of guidelines for shareware distribution, and by serving as a clearinghouse for new shareware products. They came up with a code of ethics for official "shareware" products, which includes these rules for ASP members (shareware authors):

- A member's program (evaluation version) could not be limited (crippled) in any way. In the true spirit of "try-before-you-buy," users must be able to evaluate all the features in a program before paying the registration fee.
- Members must respond to every registration. At the very least they must send a receipt for the payment.
- Members must provide technical support for their products for at least 90 days from the date of registration.

The ASP maintains a forum on CompuServe, ASPFORUM, devoted to the discussion of shareware. The ASP also distributes catalogs of shareware; their OS/2-specific catalog is called *srgo2xxx.zip*, where *xxx* is a serial number for the latest version. On CompuServe, that file is called *srgo2.zip*, in ASPFORUM DL7.—*Alan Zeichick.*

We hope this article has piqued your interest in OS/2 shareware. It's a very viable option for both corporate and personal use.

John Wagner is the owner of Power Programming, Inc. located in Holland, Vt. He is the author of many shareware programs, including the popular OS/2 ZIP file utility, The UnZip Shell. He can be reached at CompuServe 72122,2412.

RESOURCE GUIDE

QwikSwitch ($39.95)
BitWare Consulting
CompuServe 72303,412
Internet *72303.412@compuserve.com*
Hobbes CD-ROM: *\2_x\sysutils\qwik32.zip*
OS/2 Shareware BBS, Area 11: *qwik32.zip*
CompuServe: OS2AVEN, Other Vendors: *qwik32.zip*

AlarmPro ($45)
WalkerWerks
CompuServe 70304,2705
Internet *70304.2705@compuserve.com*
Hobbes CD-ROM: *\2_x\miscutils\alrmp14g.zip*
OS/2 Shareware BBS, Area 1: *alrmp14h.zip*
CompuServe: OS2BVEN, OS/2 Shareware: *alrmpr.zip*

Guidelines
(Base package is free, add-ons vary in price)
JBA International
(416) 940 2442, Europe (UK) 44 81 899 5600
CompuServe 73022,35, Internet *73022.35@compuserve.com*
Hobbes CD-ROM: *\2_1\program\gbase1.zip, gbase2.zip, gbase3.zip, guidoci.zip*
OS/2 Shareware BBS, Area 10: *gbase1.zip, gbase2.zip, gbase3.zip, guidoci.zip*)
CompuServe: OS2AVEN, Other Vendors: *gbase1.zip, gbase2.zip, gbase3.zip, guidoci.zip*
(Perspective downloaders of Guidelines should note the package is almost four megabytes.)

OTHER SOURCES OF OS/2 SHAREWARE:

- CompuServe GO OS2AVEN and OS2BVEN are loaded with OS/2 shareware and shareware authors.
- The OS/2 Shareware BBS (703) 385-4325 8n1.
- The Hobbes OS/2 CD-ROM ($29.95) from Walnut Creek CD-ROM, (510) 674-0783.

Software on Tap

Hobbes Ready-to-Run CD-ROM. BY ESTHER SCHINDLER

Walnut Creek produces two OS/2-specific CD-ROM collections. The better known, Hobbes Archived, is a quarterly collection of compressed programs, newsletters, information, and other matter that one can only call "stuff." The new offering, Hobbes Ready-to-Run CD, lets you save precious hard disk space by running the applications and accessing very large files directly from the CD-ROM. None of the files are compressed.

This disk, too, contains a lot of "stuff." You'll find nearly 5,000 icon files, 248 fonts, 350 *.wav* audio files, and almost 250 MB of movies in 54 *.avi* files. Since these files are uncompressed, you can install or play them direct from the CD-ROM, which is probably the best way to collect and view these items. I don't really need to have that many fonts taking up room on the hard disk, but it's nice to know that, if I ever having a crying need for a font that looks electrocuted, it's just a couple of mouse-clicks away.

The disk also includes IBM's "service pack" bug fixes for OS/2 2.1 and OS/2 for Windows, which probably don't mean a lot to you by now. When the disk was first released, however, the situation was different. Walnut Creek has a reputation for updating their CD-ROM offerings frequently, so be sure to check the current contents before you fork over your money. By the time you read this review, it will surely be more relevant.

When I looked in the *\bin* directory, I was impressed by the large number of programs that are, indeed, ready to run. However, when I looked at the list closely, I wasn't too excited about running any of them. Many of them are OS/2 versions of command-line programs popular in UNIX (*troff, grep, awk*) that are neat if you use them and already like them, but a shrug if you don't. Sure, they are powerful, but I first installed OS/2 to get away from those kind of tools.

The disk includes an OS/2 version of Emacs (19.25), which is good to have if you hate OS/2's Enhanced Editor. I don't, and I never used Emacs, so it didn't appeal to me. Among the utilities that originated in the Unix world is a TEX text formatter for OS/2. It also includes two OS/2 C and C++ compilers, GNU GCC and EMX08h.

To use most of these programs, you will need to make manual changes to your *config.sys*; the product offers no facility to modify the file for you. The source code for many of the utilities is included, so if you're an OS/2 developer, you might find some of them worthwhile.

The CD-ROM includes some useful utilities, such as FEELX (which makes your OS/2 system behave more like an X Window system), and the shareware Filebar, which provides a toolbar to quickly access OS/2 functions. Another useful utility is Ghostscript, a PostScript document viewer. I found it more than a little arcane; the phrase "intuitively obvious" never sprang to mind.

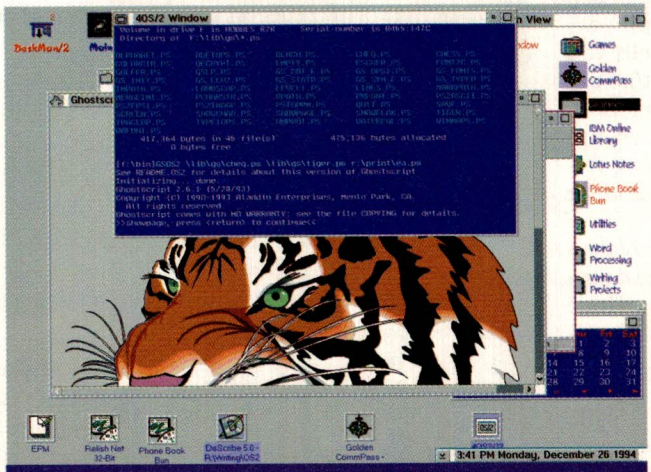

Figure 1: Ghostscript lets you view PostScript documents on-screen.

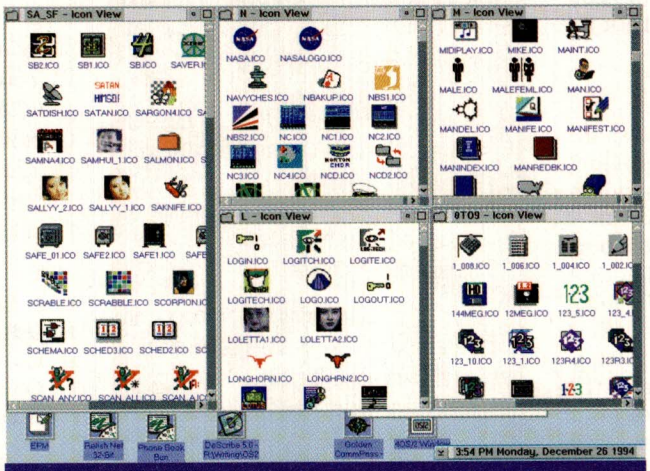

Figure 2: The Hobbes Ready-to-Run CD-ROM certainly includes every icon you could imagine—and a few you didn't.

The problem is that these programs are unlikely to be ones you want to have "ready to run." It's great to have the *.avi* movies, the fonts, and the *.wav* files instantly available and, in my opinion, that's where this collection's value lies. However, if I was going to compile utilities that would be instantly available, I would have selected a very different set of applications.

It sounds as if I really dislike this CD-ROM; I don't. It's inexpensive, so if you like only one item, it will be worth the purchase price. I'm a little disappointed, because I think this product could have been done better. I was hoping for a "Wow!" and found myself with only an "O.K." on my hands. Given a choice between the two Hobbes CDs, I'd choose the other one.

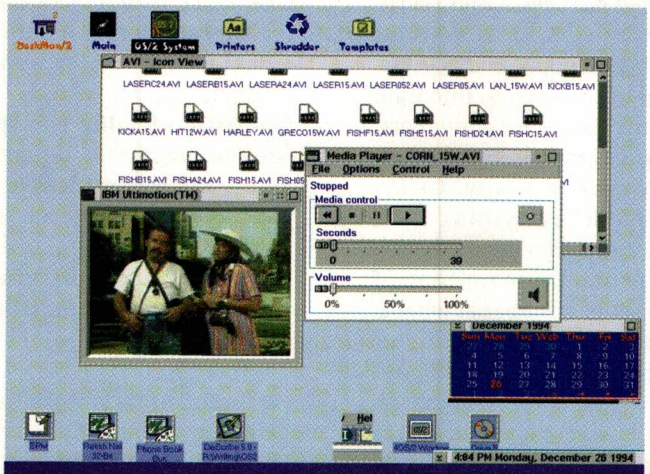

Figure 3: The CD-ROM provides an incredible array of OS/2 video "movies."

Esther Schindler is a computer consultant and writer. She is a contributing editor to OS/2 Magazine, the sysop of the Ziffnet Executives On-line Forum on CompuServe, and coauthor of Teach Yourself Rexx in 21 Days, from Sams Publishing. You can contact her at 72241, 1417 @compuserve.com.

RESOURCE:

Ready-to-Run Hobbes OS/2 ($39.95)
Walnut Creek CD-ROM
1547 Palos Verdes, Suite 260
Walnut Creek CA 94596
(510) 674 0783
(800) 786 9907
(510) 674 0821 (fax)
info@cdrom.com (internet)
72147,3425 (CompuServe)
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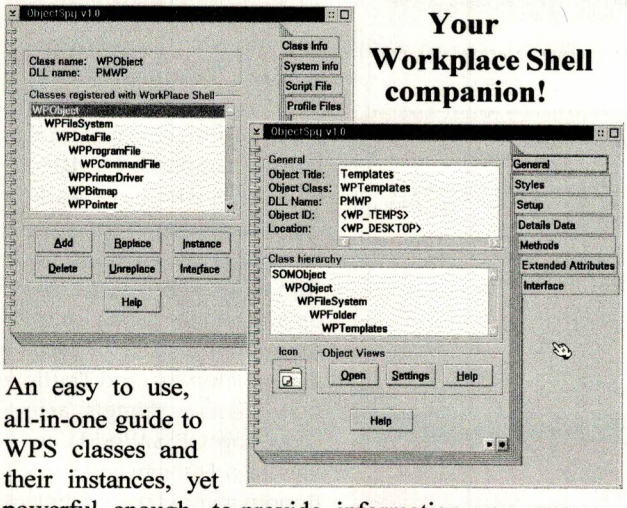

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Reader Service No. 21

Simulation World

GPSS World version 1.0 BY BOB ANGELL

GPSS is a simulation language that has been around since 1969 and was developed by Jeffrey Gorgon. GPSS World is a younger sibling to the already popular GPSS/B.C. Simulation software grew out of the need to fine tune the operation of industrial systems (factories, conveyors, warehousing, etc.) because the current methodologies suddenly couldn't effectively handle the complexity. Today, simulation software is used to model everything from patient flow through hospitals to paper moving through a busy office. In fact, many companies think nothing of spending a small portion of a project to ensure that what is built is efficient and operates within proposed specifications.

GPSS World is an extremely powerful general-purpose computer simulation package designed for professionals. Its discrete and continuous simulation capabilities are enhanced by its flexibility, ease-of-use and high degree of interactivity. The tools provided with this package aid developers in modeling simple to extremely complex systems. A unique feature of GPSS World is that users can interact with their simulation model instead of using batch-mode processing. GPSS World encompasses a set of three programs:

- **GPSS World:** The main program of the GPSS family of products, is a self-contained simulation and modeling environment that also includes remote-node processing capabilities. With this product, you can design, develop and fully analyze simulation models without further software components. With its remote-node processing capabilities, this package allows you to run a simulation on more powerful machines located on a Local Area Network (LAN).
- **Simulation Server:** This separate program allows you to run simulations from a remote node on a LAN. Each remote node will need this portion of the program to allow you to use its processor for simulations. This software mechanism will also allow you to take full advantage of SMP-based processors. However, this portion of the package does not allow you to build a simulation model from a remote node without the GPSS World product.
- **Simulation Studio:** This special product allows you to describe graphically different elements of a simulation model and assign them to the appropriate sections of your code to animate and show how well the environment is modeled. The current shipping version of GPSS World has hooks for the Studio product, but the Simulation Studio is still under development and unavailable.

These three products work together to provide a flexible modeling environment.

The Tutorial, Reference and Simulation Server Manuals are included with the GPSS World package. The Tutorial Manual is over 500 pages long. These pages contain 18 Lessons and 25 different Simulation Model examples. Each tutorial lesson is designed to build upon the previous. Each lesson assumes that you have working knowledge of GPSS and Modeling. If not, the tutorial provides a list of resources. The Simulation examples are written by experts who have working knowledge of the software. Here are a few simulation examples: Telephone operation, TV Repair shop, Assembly Plant, Bicycle Repair, Foundry, and Traffic flow. These models also show how GPSS World handles both Discrete and Continuous computer modeling.

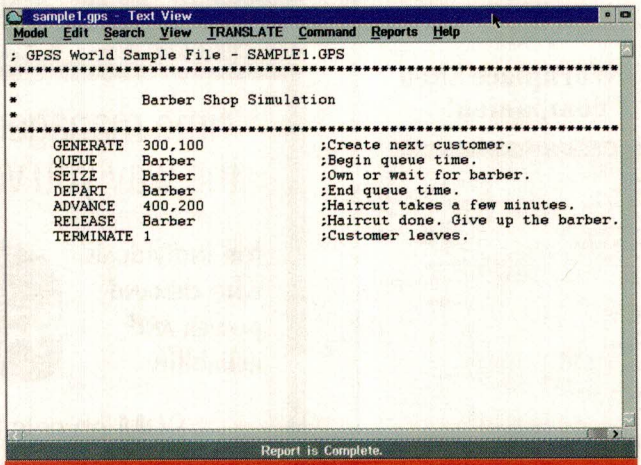
sample1.gps - Text View
Model Edit Search View TRANSLATE Command Reports Help
; GPSS World Sample File - SAMPLE1.GPS
Barber Shop Simulation
GENERATE 300,100 ;Create next customer.
QUEUE Barber ;Begin queue time.
SEIZE Barber ;Own or wait for barber.
DEPART Barber ;End queue time.
ADVANCE 400,200 ;Haircut takes a few minutes.
RELEASE Barber ;Haircut done. Give up the barber.
TERMINATE 1 ;Customer leaves.
Report is Complete.

Figure 1: Loading up the *sample1.gps* model file. *Sample1.gps* is a model that represents a barber shop.

The Reference Manual starts with an introduction to GPSS World concepts (projects, models, simulations and simulation servers), architecture (hardware, distributed simulations, interactivity, and visualization), the modeling language, and compatibility (differences from previous versions of GPSS mainframe and GPSS/PC). Chapter 3 discusses how to use model and GPSS statements along with fields, expressions and names. GPSS

entities (transaction, block, facility, function, queue, and table entities to name a few) are addressed, along with the difference between discrete and continuous simulation models, in Chapter 4. Chapter 5 discusses the use, menus, and dialog functions of all the different GPSS Windows. The next few chapters discuss GPSS World commands, block statements, and Plus features. Chapters 9-13 cover GPSS World advanced topics.

The simulation server manual covers installation and use. All of the documentation balances technical information with readability and understanding appropriately.

Now, let's discuss for a moment how a simulation model would be developed in GPSS World. A GPSS model consists of a group of "Blocks," which can be acted upon by "Transactions," which "Enter" one block or another. Simply put, an entire simulation is a Transaction entering one or more Blocks, then another Transaction, and so on. The strategy to design, develop, and run an appropriate simulation lies in your ability to assemble a set of Blocks that cause Transactions to behave in the desired manner. GPSS World can "Generate" transactions for a model at predetermined time intervals. These time intervals are based on a fixed amount of time or a statistical function, and could be represented by patients in an Emergency Room, parts in a warehouse, a paper trail through a busy office, and so on.

Blocks and Transactions are only two of the many available GPSS entities. Usually, when a Transaction enters a Block, an operation is performed on a third entity. The manual uses the Seize Block as an example. When a Transaction enters this Block, the Seize Block forces the Transaction to "own" a GPSS Entity called a facility. Facility entities are usually used to represent single-owner resources.

You start GPSS by opening a "Model" session. In this session, you interact with the Model Window's menu, shown in Figure 1. Under the Model portion of the menu, you can create, use, or print a model. Edit allows one to cut, copy, and paste text from a given model. Search has the capability to navigate models with ease. In View, you can monitor many of a simulation's settings and functions. Once a Model is loaded or written, it must be translated by the Model Window. The Reports allow you to generate statistical information about a recently run simulation. Help provides on-

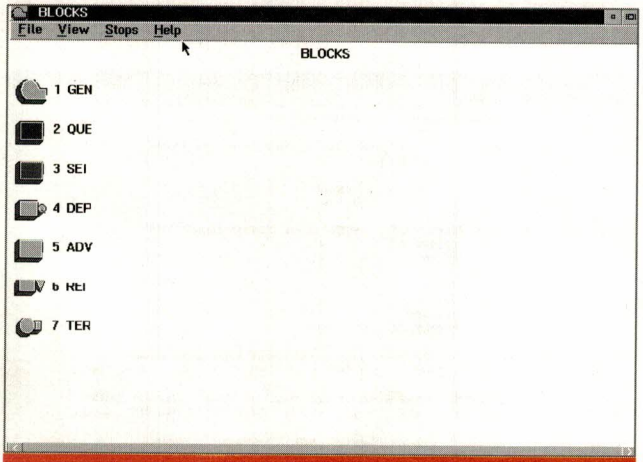

Figure 2: Choosing View/Window/Blocks from the Model window, a Blocks representation of the *sample1.gps* is provided.

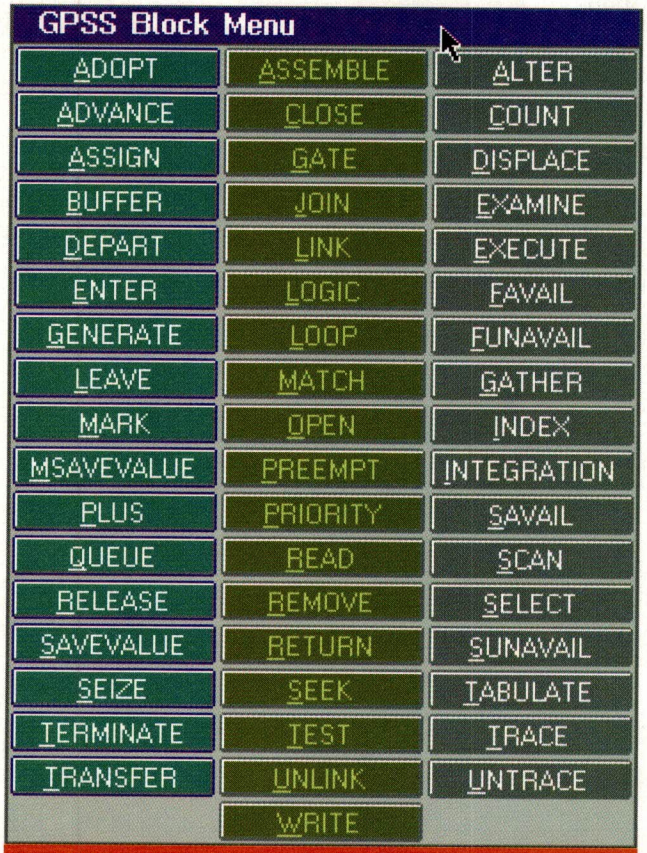

Figure 3: In the Blocks window, under the Views option on the menu, an entire list of Block options is available.

line assistance about GPSS World.

To fully understand the functionality of GPSS World, let's go to the Model Window's menu and load up a sample simulation program. In Figure 1, you can see that we have loaded up the *sample1.gps* model file. *Sample1.gps* is a model that represents a barber shop. To analyze how GPSS would handle this simulation, let's review the process of getting a haircut. When a customer arrives at the barber shop, the barber may be idle or busy. The customer must wait for the barber a brief moment or several minutes before the haircut begins. Once the barber is ready, it generally takes a few minutes for the haircut, but is variable based on the length and style of the customer's previous haircut. Then, the customer leaves.

The *sample1.gps* model generates customers to the Barber shop. Once they arrive, they either "own" a barber immediately or must wait in a queue. When the barber is ready for the customer, they are advanced to get a haircut. In the simulation model, the haircut takes 400 (plus or minus 200) time increments. Afterwards, the customer leaves the barber shop.

Choosing View/Window/Blocks (Figure 2) from the Model window, a Blocks representation of the *sample1.gps* is provided. This is exactly like the written code shown in Figure 1. In the Blocks window, under the Views option on the menu, an entire list of Block options (Figure 3) is available. These are provided so that an entire simulation model can be designed, developed and analyzed graphically. Figures 4 and 5 show detailed views of the Block model before and after a simulation of 301 haircuts, respectively. During the simulation run, a standard GPSS report is created and a sample is shown in Figure 6. Several different reports can be generated from the same simulation model.

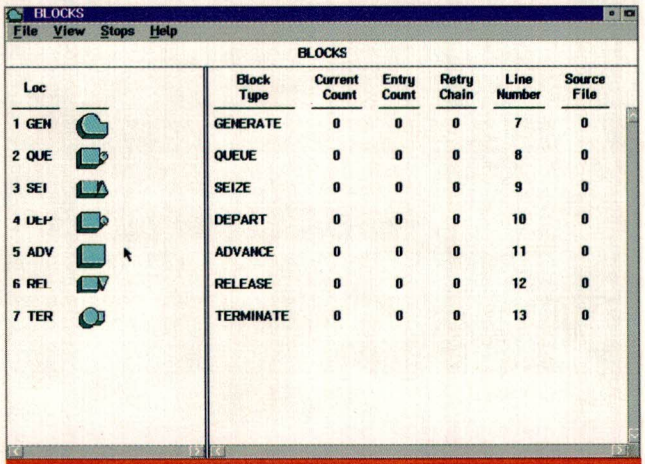
BLOCKS
File View Stops Help
BLOCKS
Loc
Block Type
Current Count
Entry Count
Retry Chain
Line Number
Source File
1 GEN GENERATE 0 0 0 7 0
2 QUE QUEUE 0 0 0 8 0
3 SEI SEIZE 0 0 0 9 0
4 DEP DEPART 0 0 0 10 0
5 ADV ADVANCE 0 0 0 11 0
6 REL RELEASE 0 0 0 12 0
7 TER TERMINATE 0 0 0 13 0

Figure 4: Detail view of the Block model before a simulation of 301 haircuts.

In analyzing the standard simulation report, we can see that the Barber was used almost all the time (0.997), with an average of 58.064 customers waiting in the queue an average time of 17,301.217 units to get a haircut. Contrast the average waiting time with the time it takes to get a haircut—about 404.293 time increments. From this data, it would appear one waits over four times longer than the time it takes to get a haircut. An interesting note is that over 100 people were left waiting to get a haircut when the simulation stopped. From this simulation, it is obvious that another Barber or two needs to be added to the shop.

Data plotting is another powerful feature of GPSS. A sample plot of the Barber Shop's queue activity is shown in Figure 7. This and other functions of GPSS World make it one of the most powerful simulation software packages.

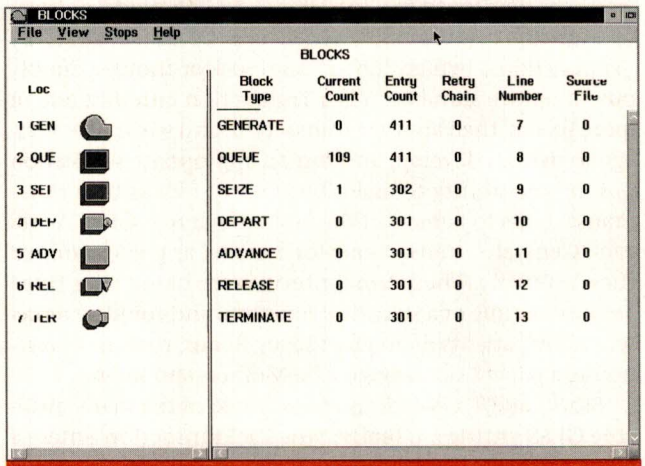
BLOCKS
File View Stops Help
BLOCKS
Loc
Block Type
Current Count
Entry Count
Retry Chain
Line Number
Source File
1 GEN GENERATE 0 411 0 7 0
2 QUE QUEUE 109 411 0 8 0
3 SEI SEIZE 1 302 0 9 0
4 DEP DEPART 0 301 0 10 0
5 ADV ADVANCE 0 301 0 11 0
6 REL RELEASE 0 301 0 12 0
7 TER TERMINATE 0 301 0 13 0

Figure 5: Detail view of the Block model after a simulation of 301 haircuts.

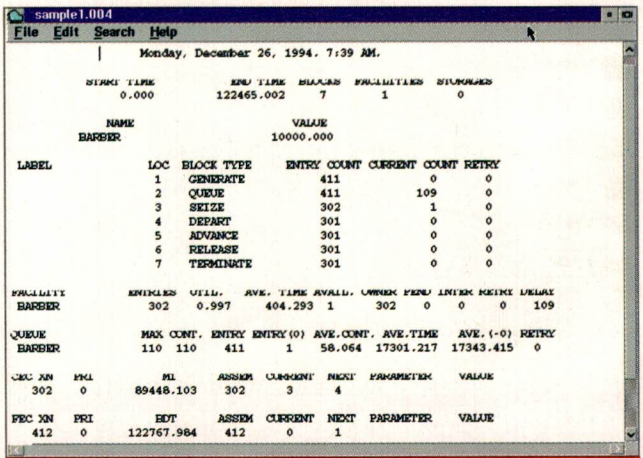
sample1.004
File Edit Search Help
Monday, December 26, 1994, 7:39 AM.
START TIME END TIME BLOCKS FACILITIES STORAGES
0.000 122465.002 7 1 0
NAME VALUE
BARBER 10000.000
LABEL LOC BLOCK TYPE ENTRY COUNT CURRENT COUNT RETRY
1 GENERATE 411 0 0
2 QUEUE 411 109 0
3 SEIZE 302 1 0
4 DEPART 301 0 0
5 ADVANCE 301 0 0
6 RELEASE 301 0 0
7 TERMINATE 301 0 0
FACILITY ENTRIES UTIL. AVE. TIME AVAIL. OWNER PEND INTER RETRY DELAY
BARBER 302 0.997 404.293 1 302 0 0 0 109
QUEUE MAX CONT. ENTRY ENTRY(0) AVE.CONT. AVE.TIME AVE.(-0) RETRY
BARBER 110 110 411 1 58.064 17301.217 17343.415 0
SEC XN PRI M1 ASSEM CURRENT NEXT PARAMETER VALUE
302 0 89448.103 302 3 4
FEC XN PRI BDT ASSEM CURRENT NEXT PARAMETER VALUE
412 0 122767.984 412 0 1

Figure 6: A standard GPSS report.

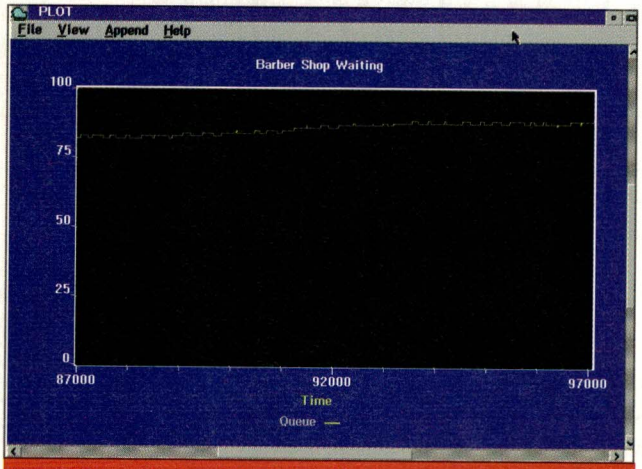

Figure 7: A sample plot of the Barber Shop's queue activity.

Unfortunately, to describe all of these features in detail would go beyond the scope of this article.

In summary, having used other simulation packages in past years, GPSS World is one of the easier programs to learn and use, providing you use the Tutorial and study the sample simulation models. Given the need for simulation software, GPSS World would be at or near the top of the list.

Bob Angell is a principal with Applied Information and Management Systems, a management and consulting firm in Salt Lake City, Utah that specializes in management information systems integration, OS/2 development and integration, total quality improvement engineering, and related services. He can be reached via the Internet at bangell@cs.utah.edu.

RESOURCE

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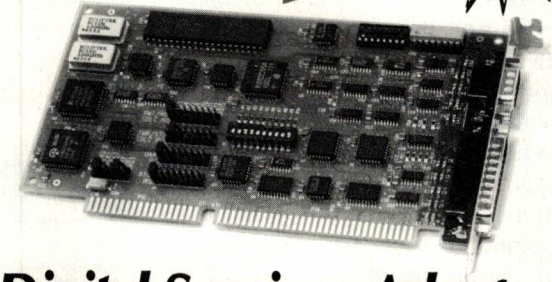

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Reader Service No. 23

"Open The Pod Bay Doors, Hal"

IBM's Voicetype dictation system. BY STEVE GALLAGHER

"I'm sorry, Dave, but I can't do that. I know what you were planning. You see, I was able to read your lips..." Fortunately for us, the day when our computers will be able to read our lips is still light years away. But for better or worse, the day when our computers can read our voice is here and now. IBM has just cranked up the bar in the voice-recognition arena with its OS/2-based Voicetype Dictation System (formerly the IBM Personal Dictation System). Do not let the bland-as-pabulum name of this product deceive you: This could very well be the sort of hot technology that OS/2 was made for.

Imagine a doctor or member of an emergency room staff being able to dictate patient information directly into the computer instead of filling out voluminous forms that just have to be keyed into the computer eventually anyway. Imagine this same medical professional being able to analyze a patient x-ray and dictate important information into the computer while leaving hands free. Imagine reporters and writers, free of constant, unnatural motions that can often lead to Repetitive Stress Injury. Imagine the same scenario and the possibilities the technology opens for physically-challenged individuals, with the chance to now become involved in some of the high-tech career paths that were previously unavailable due to the requirement for massive amounts of typing.

It is, perhaps, in this role as an "imagination engine" that the full potential of Voicetype begins to become apparent. Let's look at what Voicetype has to offer.

What is it?

Voicetype is a PC-based voice-recognition system that runs under OS/2. The package consists of the software and a Personal Dictation Adapter voice card (currently the only card that works with Voicetype). A PCMCIA version is also available for laptop users. Voicetype boasts the ability to understand dictated text at anywhere from 70 to 90 words per minute. It includes a large 32,000 word vocabulary, and additional industry-specific vocabularies are available as add-on items. You "enroll" with Voicetype by feeding it a predefined set of sentences, thereby enabling it to recognize and work with your vocal "signature." It offers a unique "eyes-free" operation; in other words, you do not have to be sitting there staring at the tube and "talking at" your computer (the implications of this ability in fields as diverse as medical and manual repair operations are intriguing, to say the least). In addition to the existing optional vocabularies covering specialized areas such as radiology, emergency medicine, and journalism, there are others in the works to address needs in areas such as legal and chiropractic. It allows audio playback of a word or an entire sentence, as well as a very useful "window watcher" to allow you to view previous commands.

Voicetype is not restricted to just entering text into a word processor: it also allows powerful command and control navigation. All of your OS/2 menu bars, pushbuttons, listboxes, and other controls can be accessed and driven by Voicetype. In effect, what we are looking at here is the ability not only to generate text via voice, but the ability to literally drive your entire Workplace Shell through voice input. The system also works with most Win-OS/2 applications. Under DOS, you can only issue a Voicetype/2 macro to be played on a DOS window command line.

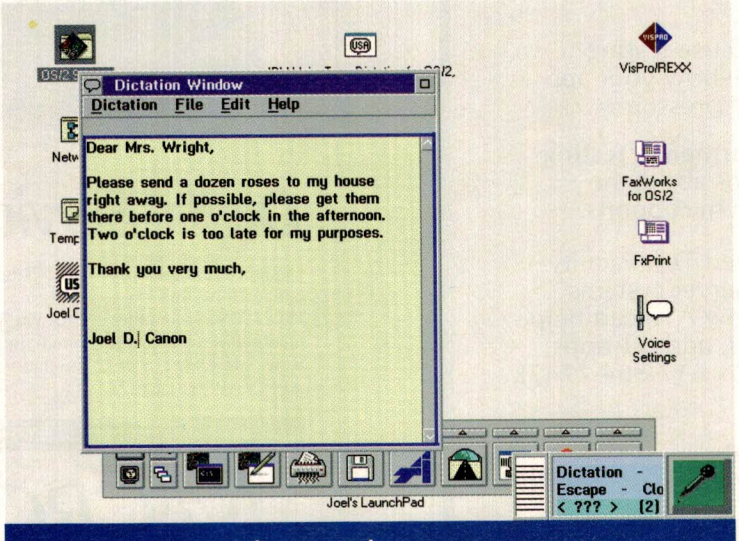
Dictation Window
Dictation File Edit Help
Dear Mrs. Wright,
Please send a dozen roses to my house right away. If possible, please get them there before one o'clock in the afternoon. Two o'clock is too late for my purposes.
Thank you very much,
Joel D. Canon
VisPro/REXX
FaxWorks for OS/2
FxPrint
Voice Settings
Joel's LaunchPad
Dictation -
Escape - Clo
< ??? > [2]

Figure 1: Voicetype's main dictation window.

Installation

Whenever I install a potentially complex product such as Voicetype, I usually grit my teeth, pour myself a cup of 500-mile coffee, and prepare myself for the worst. Imagine my surprise when the installa-

tion was accomplished without a hitch. The voice card went in and came to life with no problems, a minor miracle considering it was installed into Baby, my jazzed-up, kludged-up 66MHz 486. Not a squawk. Voicetype installs off 15 floppies, and the roughest part of the installation process was swapping disks. You should have no conflicts with other sound cards as long as they use different IRQs. I got a warm fuzzy feeling from using the Check Installation function, which goes out and gives a thumbs-up if your speaker and microphone connections are acceptable. Straightforward and painless. As we have come to expect from top-quality OS/2 programs, Voicetype installation created colorful and intuitive icons on the Desktop for point-and-click access. Plan on spending a good 60-90 minutes on the "enrollment" process, although it will be pleasant time due to the clear instructions every step of the way. As I mentioned briefly, the enrollment process allows Voicetype to map your unique vocal "signature" by having you read an expected sequence of sentences. Voicetype uses this signature to drive the way it responds to your voice when you begin using the program.

Using Voicetype

The center of the Voicetype environment is the Dictation Window. Here you will see your text displayed, be able to take care of correction and adding words on the fly, and issue system commands. You get an interesting visual depiction of how Voicetype "thinks" as it parses your voice input: the last several words you spoke are in reverse video. As Voicetype builds what it considers a proper interpretation of the full meaning of the sentence it's working on, the words and groups of words in reverse video change as the parsing engine narrows down "what you're getting at." It is truly a fascinating thing to watch, especially if you maliciously feed it convoluted sentences, as I did. As Voicetype flags what it considers to be an incorrect word, it will display it onscreen, let you hear what it thinks you said, and allows you to select from a pop-up selection of alternatives. If you click on the correct alternative—or type in the correct word if a correct alternative is not offered—Voicetype will change its internal speech engine so that it will always recognize the word when you say it in the future. Through the use of the Voice Action Editor, you are able to create customized "voice macros" that function the same way as the traditional keyboard macros with which we are all familiar. For instance, you can program a macro that will generate <Enter> <Enter> when you speak the words "new paragraph." Or, you can create a macro consisting of the words "standard disclaimer" that will expand to the words "the opinions expressed are mine and not those of my employer." Very neat stuff, and worth investing the time mastering if you normally type the same thing a lot or are already using keyboard macros.

Beyond its primary role as a dictation system, Voicetype enables you to manage your entire Desktop environment primarily through voice commands. Say "Ami Pro" and it will load up the Ami Pro word processor. Say "File" and then "Open" and it will display the listbox of all available Ami Pro documents you have stored. Let's say the document you want is the third item in the listbox; simply say "Down Down Enter" and Voicetype moves the focus down to the third item and presses <Enter> to load the document. Once you have your document available, you can enter text and drive the selections on the menu bar as well. If you say the menu item and, for some reason, Voicetype is unable to interpret what you want, you can simply say "right" and "down" and "enter" to emulate the actions you would take on the keyboard. And it is important to keep in mind that you always have full mouse and keyboard access; Voicetype does not replace these input devices, but rather supplements them with powerful new capability. As you get better at working with Voicetype, you will eventually develop your own personal style of combining all three methods of input for maximum productivity.

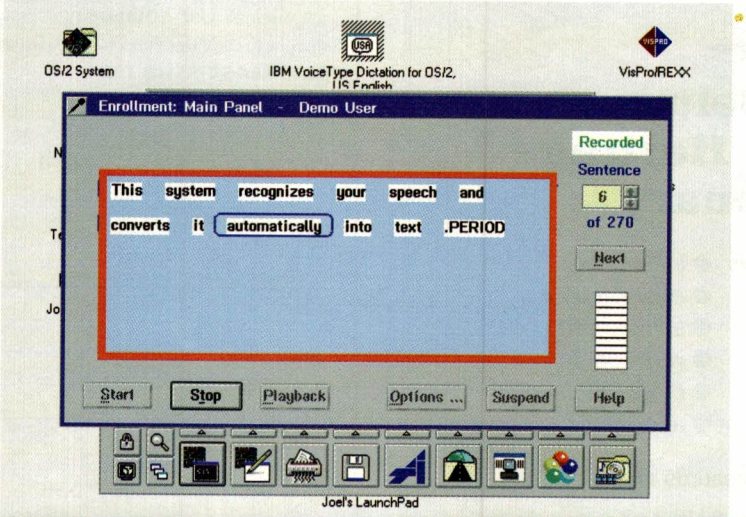

Figure 2: Voicetype's installation enrollment process.

Extending Voicetype

Some companies considering implementing Voicetype as part of an enterprise-wide solution will eventually get to the point where they need to push Voicetype harder than it can be pushed right out of the box. Fortunately, Voicetype is

not a black box; the developers have included a solid set of APIs that enable the development of customized applications based around Voicetype. The developers' program costs $699 to enroll and offers the following benefits: the Voicetype software, the Voicetype adapter card, complete documentation, access to a technical support hotline, one specialized vocabulary (emergency medicine, radiology, or journalism), and a seat for one person to attend a Voicetype training session in Dallas. For further information on the Voicetype developer program, call (800) 627-8363.

The downside?

There are some caveats you should keep in mind when evaluating Voicetype. At $499 for the software, another $499 for the adapter ($579 for MicroChannel), another $499 for a specialized speech vocabulary if you need one, the price starts to add up. This is not a toy we're talking about here.

You will need 16 to 24MB RAM to run this puppy quickly if you plan to run any other tasks. Additionally, kiss about 30MB of hard-drive space goodbye—Voicetype is a sprawler.

Voicetype deals with solid, discrete words, not the slurred, rushed string of verbal bits that constitutes normal conversation. Enunciation of each word must be crisp and distinct (no mean feat for a NYC-born guy like myself). This is not so much a failure on Voicetype's part as it is an indication of the present state-of-the-art.

If the heavy-duty resource and dollar requirements do not phase you, and your own imagination is flirting with the potential advantages to your business of voice-recognition technology, Voicetype is quite simply the best product out there. And you should really look at Voicetype's limitations in understanding "real" conversation in a positive light: limitations like this serve to remind us that, as precocious as our digital children often seem, they are, after all, "only" computers. 2001 is still a long, long way off

Steve Gallagher is President of G&A Consultants, an OS/2 consulting firm located in Raleigh, N.C. He can be reached via Internet at sgallagher@delphi.com

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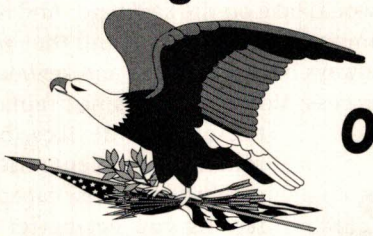

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Xbase for OS/2

OnCmd version 1.1.4. BY J.C. LOVE

One of OS/2's biggest secrets is that a company called On-Line Data offers a dBASE-compatible database manager for OS/2 called OnCmd. OnCmd's dBASE compatibility is remarkable, but it is so much deeper in functionality than you might expect in a clone product that you'll also wonder how they put in so much. Even more amazing is that the entire product ships on a single 3.5-inch disk.

Perhaps the first issue of any xbase (dBASE language and file-structure-compatible database-manager system) product is its level of compatibility. Another concern is the consistency with which it supports the extensions of other xbase products, and the ease with which it allows migrations of applications using such extensions. Performance of a database manager, especially in a networked environment, has become of critical importance to many, if not most, enterprises. Finally, the extensions specific to the product are important and, when moving to an entirely different operating-system platform, are even crucial. We'll address each of these issues and concerns as well as the problems we found.

What is it?

First, and most significantly, it's a completely 32-bit xbase OS/2-hosted dBASE III Plus compatible database server (*oncmdsrv.exe*). By design, the server engine is a separate process that takes advantage of OS/2's multithreading as it accesses database indices. This design allows the engine to run on your stand-alone OS/2 workstation, but it can also run on a different platform in a networked environment.

Its elegance glows brightly when you consider the amount of network traffic existing xbase products like dBASE, FoxBase, and Clipper can generate when updating or rebuilding indices. In the latter cases, large amounts of data must traverse the network and, on occasion, can bring the LAN to its knees. OnCmd, however, lets you use a single statement directed to the server to request index updates, which then occur entirely on the server, avoiding consuming dear network resources.

Performance of a database manager, especially in a networked environment, has become of critical importance to many, if not most, enterprises.

On-Line Data also publishes a multi-user version of OnCmd, which we did not test. The specifications of the multi-user product are impressive, however. It will manage file and record locking automatically, while still giving complete control of exclusivity and locking/unlocking commands to the programmer. We expect that you can very successfully develop a multi-user application on a single-user platform.

The second significant piece of OnCmd is the group of database tools included with it. *Dbcreate.exe* is a character-based utility that lets you define a new database's structure and then creates the database file and initializes its header. This utility allows you to use an ASCII text file that defines the database structure and redirect it to STDIN. Developers will be quick to see the value of being able to include such a definition file in applications for installation, reinstallation, and support.

Another utility is delivered in two forms, each called DBMOD, one being a compiled program file which is executed as an argument to OnCmd's interpreter, OI, and the other, a *.cmd* file that executes 'OI DBMOD'. Using either method, the xbase program DBMOD will execute. You will find DBMOD to be a very nicely implemented example of an xbase program using OnCmd's PM GUI.

The final database structure utility is *dbview.exe*, a character-based tool which, when supplied with the name of a *.dbf* file as its argument, lists the database structure to STDOUT (by default, your OS/2 character-mode window). You can redirect DBVIEW's output, which gives you yet another valuable tool in this complete application-development package.

Grow.exe is an additional utility that allows a database administrator to preallocate a database and to increase the size of an existing data-populated one. Dynamic expansion of a database usually results in fragmented database files, which impacts performance subtly at first, but increasingly as the file grows. Preallocation and managed growing of the file using *Grow.exe* minimizes the number of file-system extents of the database file.

The third major piece of OnCmd is its compiler, *oc.exe*. To compile an xbase *.prg* file, you invoke the compiler with the name of the program file as its argument. The compiler then parses the program-file text and generates pseudo code into an interpretable file with a *.m* extension. For example, to

compile *test.prg* you would execute OC TEST, which would create a file called *test.m*. As another example, the database structure utility described earlier, DBMOD, is a compiled program file and has the *.m* extension. If the compiler locates code in your program file that it cannot compile because of a syntax error or, for example, because it uses a FoxPro or Clipper extension that is not supported by OnCmd, an error file with the same name as the program file but with an *.err* extension will be created or appended. You must then correct the error or code a workaround in the *.prg* file and recompile.

One of the product's design points was to run existing xbase applications, which were created for a DOS character-based environment with OnCmd in OS/2 using Presentation Manager's graphical user interface. The developers created a clever algorithm to map the row and column integers specifying character locations used by xbase apps for their **SAY** and **GET** statements to pixels for PM. The compiler, OC, automatically implements this algorithm and, as a result, applications designed as character-based run nicely and quite attractively within OnCmd's environment.

On-Line Data has years of experience developing database software and xbase, most recently in conjunction with the QNX process-control environment. They've leveraged this experience by moving the design and, in some cases, actual code to OS/2. The result is this thoroughly thought-out development environment, which uses the best of xbase, of OS/2's multitasking and multithreading, and of Presentation Manager

Compatibility

With the exception of compilation errors mostly based on extensions to the dBASE III Plus "standard," xbase programs ran well. We found the GUI presentation of applications originally coded for a character-based display to be much better than we expected and a real plus for the presentation of the applications themselves. We found no problems with accessing or updating database structures, with data types, or with indexing, although OnCmd—not surprisingly—uses its own indexing methods, so reindexing is required before using existing xbase databases.

In fact, OnCmd indices are pairs of files, one with an *.ndx* extension that contains the defining expression, and the other, with a *.k* extension, which contains the index values. This design allows for rapid access to the index pointer by the server, and further enhances the speed of access.

Xbase language extensions

Not a single xbase application we tested would compile without at least a few initial errors. What were the problems? Nothing too difficult. We tried an old dBASE II app, but found several inconsistencies with dBASE III Plus syntax, which would have caused problems almost anywhere (the use of # instead of **recno()** is one example). Most problems revolved around unsupported extensions to dBASE III Plus syntax having to do with menus.

For example, FoxBase uses statements such as **ACTIVATE MENU** in its menuing extensions. OnCmd only supports its own menuing extensions, which are implemented to use OnCmd's special multidimensional untyped arrays (called "ragged" arrays). This approach is perfect for a GUI menu implementation as it allows rapid development and modification of menu structures and details. We were able to port an existing menu implementation from another xbase platform quickly once we understood the reasonably simple design issues.

Other than screen-display problems, however, we found that OnCmd compiled existing xbase programs quickly and easily. Our experience was that errorless compilation always resulted in programs that ran successfully.

Performance

You're going to especially like this part: We found that xbase programs seem snappier than they do under other environments. Part of that added speed is undoubtedly a result of the pseudo compiling. OnCmd's database server's use of OS/2's multithreading is probably responsible for the rest of the performance gains. But, as we've alluded to previously, the most significant performance impact will probably be felt with networked applications and OnCmd's client/server approach.

Extensions to xbase

OnCmd has implemented a large number of extensions to xbase, and On-Line Data indicates that many more are planned. We previously discussed OnCmd's algorithm that maps character-based row and column **GET** and **SAY** placement to PM pixels. Integers don't allow for small adjustments in the display locations, however, so the system implements rows and columns as decimal numbers allowing precise placements.

OS/2's uniqueness is leveraged in several ways. OnCmd supports native OS/2 printer and spooler support with job names recognized. OS/2's multimedia support is likewise supported, and is accessed via native calls using MCI string functions. The OS/2 for Pen API is supported natively. DDE is supported either externally or from within compiled applications.

OnCmd supports DLLs. This makes porting from Clipper rather elegant, since C code used in Clipper applications can be recompiled into and used in DLLs. Likewise, FoxBase **LOAD** and **CALL** code can be compiled into DLLs. On the other hand, you may find that, in many cases, binary code originally included to allow applications to work with windows or binary objects won't

be needed because OnCmd's compiler handles such objects natively.

In addition, OnCmd supports named pipes message passing using send, receive, and reply primitives. It supports the Workplace Shell drag-and-drop recognition. Support for IBM's ICSS voice product is confirmed for the forthcoming version 1.1.5 release.

We discussed one of OnCmd's significant extensions to xbase, ragged arrays. It also has BLOB (binary large object) support. Software interrupts are supported via calling an external event. A **TMR** function implements timed events, which will allow you to implement, for example, automated job scheduling.

A **MKMAP()** function is implemented to allow you to create bitmapped datasets for key ranges, and subsequently to set **FILTER**s to gain very fast access to complex cross sections of data.

Development support

Unlike many GUI development tools, OnCmd's Screen Painter (*sp.m* or *sp.cmd*, which executes OI SP) creates a *.prg* extension file that you can edit with any text editor. Two other files, one with a *.dbs* extension and the other with a *.dbb* extension are also created. The *.dbs* file is actually a *.dbf* database file that contains records identifying each of the objects on the screen and their details. These *.dbs* files make it very easy to make visual modifications to existing screens, then save them again, recreating a new *.prg* file. The *.dbb* files simply contain documentation associated with that particular screen and are also used when modifying it. But the *.prg* file is the only one actually used in compilation, and can be yanked into the *.prg* files for an application

Two other utilities that the developer will find very helpful are provided with OnCmd. One, called *oijoin.exe*, allows you to join multiple compiled modules into a single deliverable. The other, called *onsort.exe*, is a POSIX-compliant, very fast sort utility. OnCmd invokes **ONSORT** automatically when using the xbase SORT command or when rebuilding large index files. It is a discrete program, however, and you can use it as an independent system sort. Since the OS/2 system SORT is limited to 64K, you may find *onsort.exe* useful in many different situations. ONSORT will not be included in future versions beginning with 1.1.5, but will be available as a separate offering.

Problems

OnCmd isn't perfect, but it's remarkably close. Most of the problems we found were omissions in the manual. For example, nowhere in the manual does it state that your **LIBPATH** statement needs to contain the directory where OnCmd's DLLs are located. Similarly, there is no explanation of the need to have a **SET ONCMD_DIR =\ONCMD\010104** statement in your *config.sys* file. These are not serious hurdles to many developers, but others may have a difficult time understanding OnCmd's practice of installing versions within a version-number subdirectory, much less having to have an environment statement pointing to that location. The environment variable will be eliminated in version 1.1.5.

There is no program available to reinstall the OnCmd folder on your desktop. Like far too many applications, this means that if you lose or corrupt your desktop and haven't saved it, you have to reinstall the whole product.

But the problems are minor, and On-Line Data tells us that they'll be addressed and corrected in the next version, which is also supposed to include even more enhancements and extensions. One promise is that support for ODBC-enabled SQL engines will be supported in a future version. They also say that they will be renaming their utilities with two-character consistency. For example, DBMOD will become DB, and OIJOIN will be called OJ.

Upcoming utilities are a report writer and an executable-producing linker, and new extensions include notebook support and encryption and decryption functions. This system is already a competitive addition to the RAD visual client-development tools for OS/2. We expect that it will become even more competitive in the future. We highly recommend this current version.

A comprehensive demonstration program written about using OnCmd can be downloaded from Compuserve's OS2AVEN forum Library 1 as *oncmd.exe*, or via anonymous FTP from the */pub/os2* directory of *sentex.net* as *oncmd_d1.exe*.

J.C Love is a presenter of IBM application development strategies for Right Source Inc., an international marketing firm. Previously, he has been an information systems manager for a major university and a vice president of product development for a west coast software publisher.

RESOURCE:

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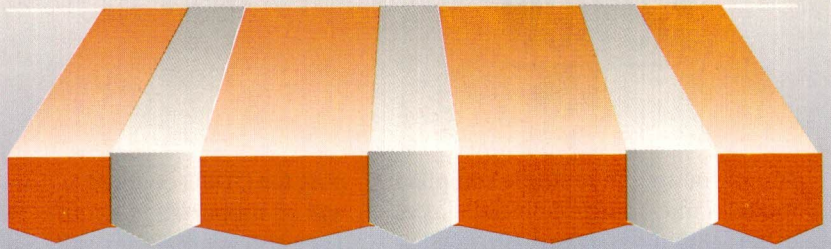

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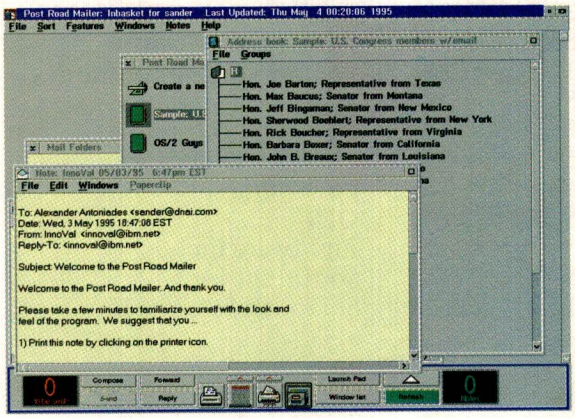
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Pinnacle Technology is releasing a new desktop control and modification program, Kid Proof/2. This utility creates a master login that determines the level of access each user has to the system. Users can have their own customized desktop, and restrictions can be placed on object menus and other systems controls. Kid Proof/2 has a suggested retail price of $59. Contact Pinnacle Technology at (800) 525-1650, (317) 581-6262, or e-mail *info@pinnacletech.com*.

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PMPro Prolog 1.0

OS/2 artificial intelligence

Nightingale Software is releasing a new Prolog compiler with a Presentation Manager front-end. PMPro's inference engine can be called from other applica-

tions so that Prolog subsystems can be embedded in other products and the engine can run on a network server. This utility includes an on-line tutorial and requires OS/2 2.x or higher. PMPro Prolog is priced at $50. Contact Nightingale at (613) 749-7984, fax (613) 749-6619, or e-mail *76150.1166@compuserve.com.*

READER SERVICE NO. 162

RightFax 4.0

Native fax-server solution

RightFax released a new version of their fax server software that runs under OS/2. The new version works better with Netware, including Novell's Netware Directory Services and IPX protocol. RightFax 4.0 routes actual document files through e-mail, including sending information on document headers and the ability to set the priorities for faxes to be processed. RightFax is priced at $999. Upgrades from previous versions are priced at $495. Call RightFax at (520) 327-1357 x605, fax (520) 321-7456, or e-mail *sales@rightfax.com.*

READER SERVICE NO. 163

TrueSpectra Light 1.0

Object-oriented paint package

TrueSpecta Inc. announced their first foray into OS/2 consumer software with TrueSpectra Light. This image-manipulation program has an object-oriented user interface that uses pop-up menus instead of pull-down menus to control objects that can consist of type, images, or special effects. Special effects include a wave object, translucency masks, a color tool for blends, and resolution-independent paint. TrueSpectra Light retails for $99. Contact TrueSpectra at (416) 322-3626, fax (416) 322-1426, or e-mail *objects@ibm.net.*

READER SERVICE NO. 164

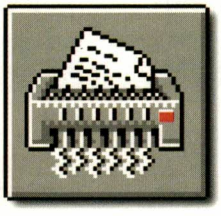
Scratch-N-Post 1.03

OS/2 sticky notes

SoftPaw Development is releasing a notepad/to-do list utility for OS/2. This Presentation Manager utility allows the user to create reminder notes that can trigger either reoccurring or single time alarms. Notes can also be grouped into categories. Scratch-N-Post is priced at $20. Contact SoftPaw at (404) 992-8628, fax (404) 998-2193, or e-mail *74654.7125@compuserve.com.*

READER SERVICE NO. 165

The Best Time to Get Back Again/2



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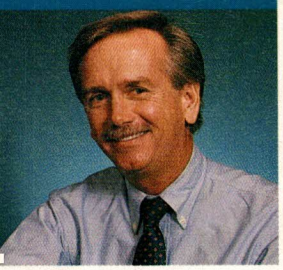


OS/2 Warp Preloaded Systems

PC MANUFACTURERS ARE MAKING IT EASY TO GET WARPED

BY DICK CONKLIN

In the past few months, we've seen announcements from dozens of computer manufacturers that now preload OS/2 Warp on their systems. OS/2 Warp is a standard feature on some models and can be ordered as an option on others. Most OS/2 Warp systems have 8MB RAM or more and a hard drive of 300MB or greater. IBM's Select-a-System gives customers a choice: when you first start up your new computer, you can click on an icon to select OS/2 Warp, DOS/Windows, or both.

If you are shopping for a new computer, you have many choices. These preloaded systems eliminate the installation process and are ready to run right out of the box. Table 1 shows a list of U.S. companies that preload OS/2 Warp on their systems and Table 2 lists overseas vendors.

Table 1: Manuafacturers that preload OS/2.

Company	Systems	Contact Information
Alaris	IBM Blue Lightning, 486, Pentium, and NextGen 586 systems.	(800) 317-2348 (510) 770-5700 Fax: (510) 770-5769
Applied Voice Technology	Voicemail systems: 486 SX-33, 486 DX4-100 models.	(800) 443-0806 (206) 820-6000 Fax: (206) 820-4095
Austin Direct	Business Audio Notebook, DX4-75, and DX4-100 MHz models.	(800) 752-1577 Fax: (512) 454-1357
Axik Computer Inc.	Ace Power Series, 486 to dual-processor Pentium models.	(408) 735-1234 ext. 106 Fax: (408) 735-1437
CompuAdd	Escort Notebook Series: 450 Colorpro (486 DX2-50), 450 Colorscan (486 DX2-50), CP60P (Pentium 60 MHz), CP90P (Pentium 90 MHz), C466D (486 DX2-66), C4100D (486 DX4-100).	(800) 766-8513 Fax: (512) 250-2070
Dell	Optiplex series, 486, and Pentium models.	(800) 613-3355 Fax: (800) 727-8320
DFI	Diamond Series, 486, and Pentium models.	(800) 808-4334 (916) 568-1234 Fax: (916) 568-1233

Table 1: Manuafacturers that preload OS/2.

Company	Systems	Contact Information
Dyna Micro Inc.	DynaCAD Series, 486 DX-66.	(800) 336-3962 (510) 438-0233 Fax: (510) 353-2020
HD Computer	Victoria Series, 486, and Pentium models.	(800) 347-0493 (408) 720-0493 Fax: (408) 720-1967
IBM PC Company	All IBM ThinkPad, Aptiva, PC 300, and PC 700 models with 8MB or above; Select-a-System feature offers customers a choice of OS/2 Warp, DOS/Windows, or both (dual boot). The unused operating system can be erased, freeing up hard disk space.	IBM Direct, (800) 426-2968 Fax: (800) 426-4128
New MMI Corp.	All models.	(800) 221-4283 (717) 327-9200 Fax: (717) 327-1217
MTR Corp.	486, Pentium, IBM Blue Lightning-100 MHz models.	(510) 887-1151 Fax: (510) 887-1181
Pacific Computer Products	Quake Tremor 486 DX2-33 and DX2-66 models.	(800) 733-9730 (408) 733-9730 Fax: (408) 733-9732
Summit Micro Design Inc.	All models.	(408) 739-6348 Fax: (408) 739-4643
Toshiba America	T4900CT Pentium-75 Notebook.	(800) 334-3445 (714) 583-3000 (714) 583-3140
Unisys Corp.	OS/2 Warp Connect preloaded model will be offered upon availability of OS/2 Warp Connect.	(408) 434-2731 (408) 434-2001

Table 2: Overseas preloaded systems.

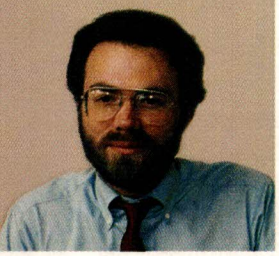
The following companies, all outside of the U.S., sell preloaded OS/2 Warp systems.

Company	Systems	Contact Information
InfoBrix (Belgium)	All 8MB systems and above.	32-2-270.05.50 Fax: 32-2-270.07.89
Osborne (Australia)	Standard on most systems; shared with IBM PC DOS 7.	61-2-844 8448

Additional companies that bundle OS/2 include:

Adams Technology (UK)
Densitron (Japan)
AST Research (Japan)
Qualest Company, Ltd (Japan)
JEC Co., Ltd (Japan)
Dell Computer Corp. (Japan)
Densitron Corp. (Japan)
Toshiba Corp. (Japan)
Mitac Japan Corp. (Japan)
Escom (Germany)
Vobis (Germany)

Dick Conklin is a contributing editor to OS/2 Magazine and author of three OS/2 books. He can be reached at CompuServe 76711,1005 or Internet os2mag@vnet.ibm.com.



Routing IBM's TCP/IP

CONNECTING YOUR LAN TO THE INTERNET.

BY MARK MINASI

Last month, we got ready to get onto the Net. If you're just now joining us, we started to attach an Ethernet to the Internet (Token Ring is just as easy) through a service provider, using an OS/2 machine as an Internet router. So far, we've collected a PC with OS/2, an Ethernet card, a modem, a copy of IBM's TCP/IP version 2.0 for OS/2: Base Kit, a C-class network address (which you get from an Internet service provider), the IP addresses of the service provider's default router and DNS server, and a SLIP account, complete with account number, phone number, and password. In addition, you'll need an Internet domain name, such as *mmco.com*, or *ibm.com*—but don't use those two; they're already taken. You'll need to make up a name, any old name, to act as a host name for your router machine. Using the word, Router, is good, but Ignatz works just as well.

Oh, and I almost forgot: You'll need OS/2 NDIS drivers for your LAN card. The TCP/IP package comes with drivers for a few LAN boards, but not many. You can usually find OS/2 NDIS drivers on CompuServe or on the LAN vendor's ftp site. The NDIS drivers will often come as a set of three files. The first is a file with the extension, *nif*, for network information file. The second is a driver with the extension OS2—that's the NDIS driver itself and, finally, a *protocol.ini* file, which is a configuration file for the driver. The driver files might come with the board, but I've found that you often have to go in search of them.

Install the TCP/IP software by firing up an OS/2 command window, putting the TCP/IP Base Kit disk 1 into drive *a:*, typing *a:tcpinst*, and pressing <Enter>. You will see a screen that asks you which software to install. Choose Base TCP/IP for OS/2, Pubs for Base TCP/IP for OS/2, and IBM Library Reader. In the LAN-Network Configuration section, tell the program about your installation. The Host name is the computer's name, such as Router or Ignatz. The IP Address is the dotted-quad address of your machine.

Because it is a router on a C-class address, the last quad must be "2." For example, if your provider gives your network the address: 200.11.43.x, you can set the "x" value. Give your workstations any "x" value except 0, 1, 2, and 255. "2" is reserved for your router machine, which is why you would have to name the router 200.11.43.2, in this example. For subnet mask, enter 255.255.255.0, unless your service provider tells you to do otherwise.

Insert the IP address of the service provider's default gateway in Router IP Address. It will probably have a completely different address from your network's. For example, my router machine's IP address is 199.34.57.2, but my provider's default gateway is 164.109.201.3. Click Install and you'll go to the LAPS installation.

LAPS is simply support software for the TCP/IP stack. It's an OS/2 NDIS board driver. You'll install LAPS and the board driver and configure the board driver. On the opening LAN Adapter and Protocol Support screen, click on Install and follow the prompts. Once it's installed, you'll be back to the original LAPS screen. Click Install again so that you can install your LAN card's NDIS drivers. When prompted for the location of the drivers, direct the dialog box to the exact directory that contains the *nif* file. If LAPS tells you that the *nif* is invalid, that means you have an old NDIS driver. You'll need to find the most recent one.

Go back to the main LAPS screen for a third time and click Configure. Choose Configure LAN Transports and choose a network adapter and a protocol (IBM TCP/IP will be the only protocol that is offered), click OK, Exit, and tell LAPS to update *config.sys*. LAPS will tell you that you need to shut down the computer, which you should ignore.

The installation program will prompt you to insert floppies into the *a:* drive for a while, but if you've been working with OS/2 for some time, you should be rather experienced at that by now. Once the files are in, shut down the system and reboot.

In the TCP/IP folder, start up the TCP/IP configuration program. Its arrangement is similar to a Settings Notebook. The first tab, Network, only requires a few changes. In the Broadcast Address field, insert your C-class address with 255 in the last quad. For example, my broadcast address is 199.34.57.255. The Destination address should be the Internet provider's default gateway IP Address, which is 164.109.201.3, in my case. Leave the other fields unchanged.

Leave Routing and Autostart un-

changed. In the SLIP tab, check the Enable the SLIP Interface check-box. Set the communications port to the one that the modem is on. In my experience, the correct value for VJ Compression is On, but check with your provider to be sure. It will be impossible to get beyond the initial login screen at ftp or telnet sites without it. Script File directs SLIP to a REXX file that starts up the service. Enter the name of the pre-built REXX script, which is *fonuser.cmd*. For Script Attachment Parameters, enter the modem command to dial the SLIP connection, such as ATDT555-2222. For IP Address, enter the local .2 address (mine is 199.34.57.2), and for destination address, enter the IP address of the provider's gateway. Again, mine is 164.109.201.3.

Finish up this configuration with the Services tab. In Domain Name Services, enter the host name and domain name. For example, my router machine is *tcpgw.mmco.com*, so the host name is *tcpgw* and the domain name is *mmco.com*. For Domain Nameserver(s), insert the DNS server address that your service provider gave you—again, it's a dotted-quad address.

Close up the program and save the changes. You'll need to reboot and give it a few tweaks. First, edit *fonuser.cmd*; which is in the BIN subdirectory of wherever you put the TCP/IP software (*c:\tcpip* by default). Modify the **mode com** command, which you'll find in the file, to set the speed of the serial port that's running SLIP. For example, I use the following line:

```
mode com2 38400,n,8,1,rts=hs
```

It's important to modify that line, because even if you specify COM2 for your modem, FONUSER seems to hardwire a command to initialize COM1. Changing the **MODE COM** statement fixes that. When you have done that, look for a comment that reads as shown in Fragment 1. You'll see the line that is shown in Fragment 2.

Change the 222.222.222.10 to your router's address and the 222.222.222.20 to your provider's gateway address. Create the line in Fragment 3. Change the line, which should read as shown in Fragment 4, again, changing the 222.222.222.20 to the address of your Internet provider's gateway. After the change, my line read shown in Fragment 5.

Save everything, shut down the system, and reboot. Several windows will open, but watch the SLIP window. The modem dial string will appear, as well as a "connect" message from the modem. Enter your SLIP account number and password. To do that, you need to open up the TCP/IP folder and start up the program, SLIPTERM. It'll take a second or two to get set up, after which you'll see the messages shown in Fragment 6.

Press <Enter> and the login prompt from your service provider will appear. The actual login will vary from provider to provider, so you'll need to check with them to find out what to expect. Once you're logged in, press <F10> to close SLIPTERM and voila! You're on the Net.

When setting up machines on your network, give them IP addresses within your C-class network. For example, my 199.34.57.x network has machines that are numbered 199.34.57.10, 199.34.57.20, 199.34.57.13, and so on. Each of the machines will need an IP address, which you make up by changing the "x" part (don't mess up the other three quads) as well as a Default Gateway, a Subnet Mask, and a DNS Server. For subnet mask, use 255.255.255.0 unless someone in your network management group tells you not to. For Default Gateway, do not enter the Internet provider's gateway address. Instead, enter your .2 address, which is, again, 199.34.57.2, in my case. For DNS server, enter the DNS server IP address for your provider.

I know I've given you a brisk walk through the IBM TCP/IP software, but I didn't have much space. It took me a couple of weeks to get my network up and running the first time, but now that you know where the pitfalls are, you should be able to make your OS/2 machine into an full-fledged Internet router in approximately half an hour. The upcoming release of Warp Connect should simplify this procedure and make it more affordable, but until it's released, you'll have to use the procedures as I've defined them. Good luck, and see you in the bitstream!

Fragment 1:

```
/* Now configure this host for the appropriate address, */
```

Fragment 2:

```
ifconfig sl0 222.222.222.10 222.222.222.20 netmask 255.255.255.0
```

Fragment 3:

```
ifconfig sl0 199.34.57.2 164.109.201.3 netmask 255.255.255.0.
```

Fragment 4:

```
route -f add default  222.222.222.20 1
```

Fragment 5:

```
'route -f add default 164.109.201.3 '1'
```

Fragment 6:

```
[Requesting COM port access from SLIP driver]
[SLIP driver granted access][Startup Complete]
```

Mark Minasi has been a consultant and educator in the fields of advanced PC operating platforms and PC technology since 1984. He is a contributing editor for Compute, BYTE, and OS/2 Magazine. You can contact him at CompuServe 71571,264 or Internet mark@smtphost.mmco.com.

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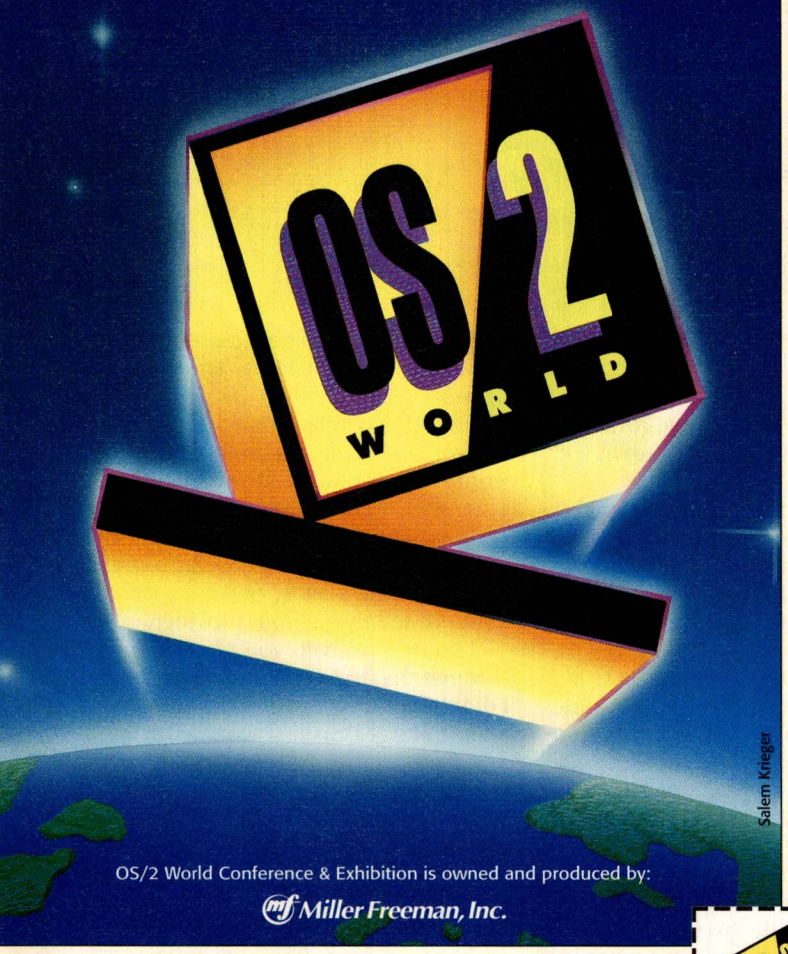

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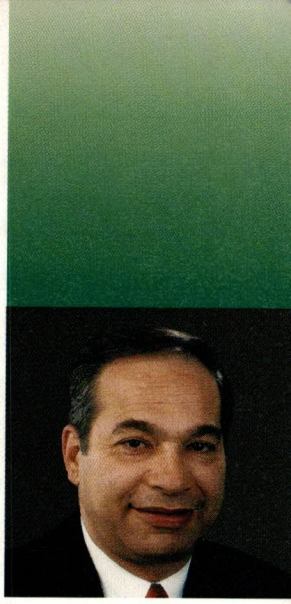

A matter of style

TECHNIQUES FOR WRITING READABLE CODE.

BY DICK GORAN

Spaces, Concatenation, and Alignment

I have the opportunity, on a regular basis, to look at different people's styles of writing REXX programs. Computers are wonderful machines that don't depend on aesthetics, however, my tired old eyes do. One of the first things I invariably have to do to assist someone in determining why a program doesn't work is reformat portions of the program so that I can attempt to follow its flow. The suggestions that I have included are the recommendations I generally offer to people to make it easier for them to be more productive when writing REXX programs. Most of my suggestions don't result in any extra burden when a program is being written and they can save many hours of debugging and maintaining the program.

Listings 1 and 2 include the same working REXX program. This program creates a Workplace Shell object on the Desktop that can be used to launch the REXXTRY program in a windowed OS/2 session. The sequence numbers on the right side of each line of code, although they are valid REXX comments, are intended solely for the convenience of making reference to the instruction in this column. References to specific line numbers have been shown in square brackets.

The program that is illustrated in Listings 1 and 2 serves to demonstrate a number of points that are related to REXX coding style. The use of one or more space characters in REXX, except within literals, is left completely to the discretion of the user. Wherever a single space is permitted, more than one space can be used. Proper use of spacing and alignment of the source instructions in a REXX program make it much easier for you or someone else to read and maintain.

It is difficult to see in Listing 1 that the **SysCreateObject()** function has five parameters and that the fourth parameter, the Workplace Shell setup string, contains a semicolon-delimited list of key word/value pairs [0003-0005]. In Listing 2, the values that are used as the parameters being passed to the **SysCreateObject()** function are first assigned to variables [0002-0011]. The variable names that are selected are consistent with the names that are used in the definition of the function in most references where the definition appears and the simple technique of aligning the equal signs (=) provides much more readable code.

The style that is used for **setup** in Listing 2 [0006-0011] might seem somewhat unusual at first. A number of different techniques are in place. First, and probably most obvious, is that the concatenation symbol (||) is aligned on each line. You will also notice that the number of blanks or spaces between the literal portion of the line and the concatenation symbol vary. The most unusual line in this group is probably line 11. The presence of the null string (a literal with a length of zero) allows lines to be added or changed around without altering the punctuation as a result. Each of the lines has the same

Listing 1: Unstylized code.

```
/* 9507FG01.CMD */                                                    /* 0001 */
title='Sample REXXTRY Object'                                         /* 0002 */
rc=SysCreateObject('WPProgram',title,'<WP_DESKTOP>',,                 /* 0003 */
     'EXENAME=REXXTRY.CMD;PROGTYPE=WINDOWABLEVIO;PARAMETERS=%;'||,    /* 0004 */
     'OBJECT_ID=<REXXTRY_TEST>;REPLACE')                              /* 0005 */
if rc = 1 then do                                                     /* 0006 */
     say title||' created'                                            /* 0007 */
     end                                                              /* 0008 */
else do                                                               /* 0009 */
     say 'Unable to create '||title                                   /* 0010 */
     end                                                              /* 0011 */
```

Listing 2: Stylized code.

```
/* 9507FG02.CMD */                                          /* 0001 */
option   = 'REPLACE'                                        /* 0002 */
class    = 'WPProgram'                                      /* 0003 */
title    = 'Sample REXXTRY Object'                          /* 0004 */
location = '<WP_DESKTOP>'                                   /* 0005 */
setup    =,                                                 /* 0006 */
    'EXENAME=REXXTRY.CMD;'          ||,                     /* 0007 */
    'PROGTYPE=WINDOWABLEVIO;'       ||,                     /* 0008 */
    'PARAMETERS=%;'                 ||,                     /* 0009 */
    'OBJECT_ID=<REXXTRY_TEST>;'     ||,                     /* 0010 */
    ''                                                      /* 0011 */
call SysCreateObject class, title, location, setup, option  /* 0012 */
if RESULT = 1 then                                          /* 0013 */
    do                                                      /* 0014 */
        say title || ' created'                             /* 0015 */
    end                                                     /* 0016 */
else                                                        /* 0017 */
    do                                                      /* 0018 */
        say 'Unable to create ' || title                    /* 0019 */
    end                                                     /* 0020 */
```

form because the null string provides the termination of the literal. In Listing 1, you can see that if you add or remove a parameter from the string, you will have to expend more effort as a result. It also increases the likelihood that a punctuation error will occur when all of the tokens are strung together.

The difference in the use of the **SysCreateObject()** function (Listing 1 [0003-0005], Listing 2 [0012]) illustrates using a function as an expression versus explicitly calling a function. Although I have written about this topic in previous columns, it bears repeating because it is one of the most frequently asked questions that I hear. Any REXX function can be used either way. However, most people get acclimated to one form and never use the other. It really makes sense to use both. When it is intuitive to use the function as an expression, use it that way. If, on the other hand, it makes more sense to see the function explicitly called, don't hesitate to write it that way. A good example of the two different techniques is the **LINEIN()** and **LINEOUT()** functions. Using the line:

```
input_line = LINEIN(file_name )
```

makes more sense than calling **LINEIN** and assigning RESULT to *input_line*. By the same token, the following line:

```
call LINEOUT file_name,,
             output_line
```

makes more sense than

```
rc = LINEOUT( file_name,,
              output_line )
```

particularly if the value returned by the **LINEOUT()** function will not be checked (which is generally the case). I know that C programmers will argue this point with me. Conversely, COBOL programmers who use REXX provide the best arguments for use of the explicit CALL. That's part of the beauty of REXX—have it your way. I am not saying that you must use the techniques that I am describing here, only that the options are available to you.

IF/ELSE with DO/END

Because only one instruction can follow both parts of an **IF/ELSE** construct, it is necessary to use the **DO/END** pair to group multiple instructions together. I am sure that everyone who has written a REXX program of any size has written a conditional **IF** statement with a single instruction following it only to have to go back and add the **DO/END** pair when it became necessary to add a second instruction that followed the conditional test. If you get into the habit of always following **IF** with **DO/END**, you can save yourself a lot of effort later. It will become second nature to you and you will not have to alter your thought flow by going back to add the lines.

This subject leads me to the placement and alignment of the **DO/END** pair wherever it is used in a REXX program. A considerable amount of time can be lost trying to find a missing **END** clause. The majority of REXX programs I see, particularly those written by new REXX programmers, will have the **DO/END** pair aligned if they are used by themselves. However, if they are used following an **IF** clause, typically the **DO** is written following the **THEN** token. It seems reasonable to me that the inconsistency should be eliminated by placing the **DO** on a line by itself, just as the **END** clause is, and aligning the **DO** with its corresponding **END**.

Another benefit can be gained by aligning the **DO** and **END** clauses. For editors that support a REXX-type macro language (in my case KEDIT from Mansfield Software), it is quite simple to create an editor macro that will cause only the **DO** and **END** lines (I include **SELECT** clauses too) to be displayed. By using this technique, the chore of locating an unpaired set of **DO/END** clauses becomes a much easier task.

REXXTRY

Anyone not familiar with REXXTRY should take the opportunity to try it. It is a REXX program that allows one or more REXX instructions or expressions to be entered interactively without having to create a file for the REXX instructions. For example, have you ever had to refer back to the REXX documentation to see what the default format of the string returned by the built-in **DATE()** function is? By launching REXXTRY from an OS/2 windowed or full-screen command-line session (or with the sample program I am using here), you can enter the instruction **SAY DATE()** and see the resulting string. You can also use REXXTRY to

run a short, one-time REXX program. Successive lines can be entered exactly as you would create them in a REXX program.

DO/END repetitors

The technique of including the repetitor (admittedly, a word I have never seen outside the context of REXX) on the **END** clause is similar to the idea of aligning the **DO/END** pair. Programmers frequently append comments to an **END** clause line, indicating which **DO** loop is being terminated. By including the repetitor variable name as part of the **END** clause, the same result is obtained with the added benefit that the REXX interpreter produces an error message if nested **DO/END** pairs are not properly defined. (This is, unfortunately, not true with REXX on OS/2 2.1, because of a defect in the interpreter).

As long as I am discussing the use of the repetitor on the **END** clause, I would like to ask the rhetorical question of why a repetitor, index, subscript, or whatever term you would like to use, is always the letter **i** for a first choice followed by the letter **j**? The answer probably lies in the use of integer values in the FORTRAN compilers of the early 1960s. Integers had to be defined, beginning with a letter of **i** through **m**, if my memory is correct (please hold the e-mail). The use of the letters **i** and **j** have simply evolved over time. If you break the habit and begin to use repetitors that are more relevant to the list or array that they are used to reference, you can save yourself a lot of grief when you find that you have unintentionally used the same variable in two places at the same time—although I'm sure that's never happened to you.

Compound variables—arrays

One might suspect REXX of being colorblind. Listing 4 contains three lines that you can test with REXXTRY. Launch REXXTRY in an OS/2 windowed or full-screen session, enter the three lines from Listing 4, and you might be surprised at the results. Though you probably expected the result of the **SAY** instruction to be gray, you most likely got a darker answer. This phenomenon is not a defect in REXX; it is REXX "gotcha." When you reference a compound variable in REXX, only the stem (that portion of the name up to and including the first period) is converted to uppercase. The tail (that portion of the name following the first period) is processed in the same case in which it was written. If you could look into the REXX variable pool (the storage where REXX variables are kept), you would see that while 'SHADE' was assigned the value of gray, the variable *'COLOR.shade'* was assigned the value of black in the first line that you entered.

Listing 3: END clause with repetitor.

```
do index_1 = 1 to 10              /* 0001 */
   do index_2 = 20 to 25          /* 0002 */
      ...
   end index-2                    /* 0004 */
end index_1                       /* 0005 */
```

Listing 4: Array test

```
color. = 'black'
shade  = 'gray'
say color.shade
```

On the road again

I hope to meet many OS/2 enthusiasts at the OS/2 World Conference & Exposition, which will be held in Boston from July 18 to 21. I will be giving presentations with David Moskowitz and will be speaking on REXX and OS/2 Warp.

Dick Goran is the author of the REXX Reference Summary Handbook, Third Edition. He has been in the computer industry since 1961 and was in the IBM mainframe systems software development business until 1987. He teaches OS/2 REXX to corporate clients and lectures on OS/2. His free REXX utility programs can be downloaded from OS2DF1, Lib 6 on CompuServe or ftped from ftp.netcom.com: /pub/dg/dgoran. He can be reached via e-mail at 71154.2002@compuserve.com.

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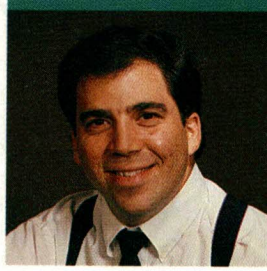
Win-OS/2 in the background

STRANGE WIN-OS/2 BEHAVIOR, DOS ICONS MADE EASY, TROUBLESHOOTING DOS PRINTING, AND CLOSING NOTEBOOKS THE FAST WAY. BY DAVID REICH



PRINT SCREEN TO LPT1

Q: My PC runs as an OS/2 2.1 client on a NetWare 2.2 network. When I am in a DOS full-screen session and I press <Print Screen>, the output goes to my local printer, an Epson FX-286 on LPT1. If I switch the same session to a DOS Window on the desktop and press <Print Screen>, my output goes to the Laserjet 4, a remote printer that is attached to one of the other stations on the network.

I can't seem to find a way to direct the output from a full-screen session to the network or from a window to my local printer. Setting the default printer on a Workplace Shell printer object seems to have no effect, nor does the Print-Screen tab on System Settings. How can I control which printer gets Print Screens and print only the contents of a DOS Window that is running on the Desktop when I press <Print Screen>?

A: For full-screen sessions in DOS or OS/2, print-screen output is directed to the print queue that is hooked up to LPT1. You cannot change this designation, but it is possible to redirect this output by setting up a LAN redirection as shown in Fragment 1. You redirect the output of LPT1 to the server and print resource that you prefer, instead of the one that is physically hooked to your LPT1 port. Be aware, however, that all output to LPT1, whether print screen or from other software, will go to this redirected printer.

Print-screen output from a graphical (GUI) session (the Workplace Shell desktop or any window) is directed to the default print queue. You can set it up or change it by opening any print object's Settings Notebook with a right click to get the context menu. Select Settings and select the Printer Driver page. You can then see or change the selection for the default printer and the port it is hooked to. It is likely that, in your case, this printer driver has its default queue hooked to the redirected printer port on your LAN, which explains why the full-screen output goes to your local printer and the output from a print screen in a GUI session or window goes to the LAN printer. You can reconfigure your printers so they all go to the same place or to any combination you desire.

Most OS/2 programs have custom icons that appear as a Workplace Shell program object, so it is usually not necessary to use part of the program as the icon.

Fragment 1:

```
NET USE LPT1: \\server\printresource
```

FROM PROGRAM SCREEN TO ICON

Q: I remember reading that you can use a section of a program as the icon. Can you tell me how?

A: To begin with, most OS/2 programs have custom icons that appear as a Workplace Shell program object, so it is usually not necessary to use part of the program as the icon because the software developer has already done it for you. I'm assuming that you are talking about, for example, DOS programs for which no OS/2 icons usually exist. I will describe a method that uses part of the program's graphics for your custom icon.

First, start the DOS program in a full screen and display what you want to use as the icon. You must display it in full-screen mode because OS/2 has to suspend some DOS programs that use high-resolution graphics if they are run in a window. Once you have the graphic you want to capture displayed in a full-screen session, hold the <Alt> key and press the <Home> key, which will put the full-screen session into a window. It is okay that it gets suspended now, because you're only trying to capture a frozen picture.

Once the graphic is in the window, click on the system icon in the upper-left part of the window, select Mark, and use the mouse to mark the area you want as your icon. Point to the upper-left corner of the area that you want to

use as the graphic, clicking and dragging down and to the right to encompass the area. When the area is the size that you want, release the button. Make sure the graphic is not too complex, as it might not show up very well at a finer resolution at icon size (which is much smaller than the real size you are marking—the system will compress the image the best that it can). After you are done marking it, use the system icon pull-down again and select Copy. It's now in the clipboard. You can close the DOS program.

Next, open the Settings Notebook for the program object of the icon that you want to change. Select the General page, which is where the icon is, and select the Edit push-button. The current icon will be displayed in the Icon Editor. Select Edit, and Paste. The image you copied to the clipboard will now be displayed with the best resolution possible.

From the Icon Editor menu, select File and Save. Once you exit the Icon Editor and close the Settings notebook, the new image will be that object's icon.

MORE DOS PRINTER FIXES

Q: I read your April 1995 column (p. 67) about adding /IRQ to the BASEDEV=PRINT01.SYS line in *config.sys* to fix some printing problems. I was printing fine from my DOS applications under OS/2 2.1, but with OS/2 Warp I can see the job spooling to the printer, but nothing comes out. Can I try anything else?

A: The /IRQ addition to *print01.sys* fixes a large percentage of printing problems, but you might still see some problems with DOS applications. If you've tried /IRQ and you are still having problems, add the *lptdd.sys* device driver to the **DOS_DEVICE** settings for the affected program object.

First, bring up the Settings Notebook for the DOS program's program-reference object. Select the Session tab and the DOS Settings pushbutton. On the list that is presented to you, leave the pre-selected choice of All DOS Settings and click on OK. Scroll down the list and select DOS_DEVICE. You will see an entry field on the right side, click on it and enter: **x:\OS2\MDOS\LPTDD.SYS** (x is the drive on which you have installed OS/2 Warp).

Close the settings and the Settings Notebook and reopen the program-reference object to start the program again. Your printing should work fine. Note that you cannot start this program from a command prompt because you can't load the device driver from a command prompt, so you will have to either migrate it, using the Migrate utility, or create the program-reference object yourself.

MOVE VS. XCOPY FOR DIRECTORIES

Q: In the April 1995 issue (p. 67), you mentioned how to copy a directory from one drive to another using XCOPY. Why didn't you just use the MOVE command?

A: In the context of the topic that was being addressed, the goal was to move a complete directory tree from one drive to another. I outlined a method that used the **XCOPY** command with a set of switches to copy any and all files and directories, regardless of attributes, and so on.

The **MOVE** command was not considered for this task because the target of the new directory is another drive or partition. The **MOVE** command only works when the source and target are the same drive or partition. That was the reason that **XCOPY** was used. **MOVE**, however, is very useful for moving not only files, but directories within a drive.

You can move with **XCOPY** more easily by using a mnemonic to help you remember all of the switches or parameters needed for **XCOPY**. This technique was provided to me by L. Mark Stone of New York.

Each parameter to **XCOPY** must be preceded by a slash, but if you remember the anagram, HOTSERV, which is easier than remembering all of the switches in another order, you don't have to write them down or look them up each time. Each of the letters in this memorable word represents one of the **XCOPY** parameters.

HOW TO CHKDSK

Q: When I run CHKDSK on my *d:* drive (which is my OS/2 boot drive), it detects lost data. Typing chkdsk d: /f does not work. I keep getting an error message that tells me that the device is in use by another process. Can I use CHKDSK to correct the errors?

A: Your question refers to what is probably the most mentioned topic in the notes I receive. **CHKDSK** must lock the entire drive your are **CHKDSK**ing so it can do its work. The reason is that it must scan and potentially repair the directory structures. With a multitasking system, such as OS/2, you must ensure that nothing else is touching the drive or, more specifically, writing to the disk that might involve changing the directory data.

If you try to run **CHKDSK** on a drive that is open, any file that is open might be reported to have errors. The file most often associated with this phenomenon is *swapper.dat*.

CHKDSK should be used only on drives on which no files are open. You can run **CHKDSK** on drives other than the boot drive while OS/2 is running (assuming that no files are open on any of these drives, including *swapper.dat*). If you want to run **CHKDSK** on the boot drive, you will have to boot your system from floppy disks (such as the installation disks) to ensure that no files are open on the boot drive.

If you ever run **CHKDSK** on a drive that has open files, you must take the reports of errors in context and, if you are concerned, close all files on the drive and rerun **CHKDSK**.

CLOSING THE SETTINGS NOTEBOOK FAST

Q: Every time I change something in a Settings Notebook, I have to go through the chore of closing every other menu it opens and the Settings Notebook before I open the program-reference object to see my changes. Maybe I'm just being picky, but isn't there a faster way?

A: If you have a Settings Notebook open and want to open the program reference object immediately, just do it. The Settings Notebook will close when the program-reference object is opened. Opening the object causes the notebook and all menus that were opened as a result to close. Thanks to Todd Crowe of IBM who showed me this one.

FULL-SCREEN WIN-OS/2 IN THE BACKGROUND?

Q: From what I understand, Win-OS/2 full-screen sessions should be able to run in the background—mine don't. I have DOS_BACKGROUND_EXECUTION toggled to on, IDLE_SECONDS to 60 and IDLE_SENSITIVITY to 100. I am running the XGA 2.0 driver for Windows that was included with my computer. Am I missing a setting? Or, have I misconstrued what a full-screen session is supposed to be capable of? One example is the Borland 3.1 Windows compiler, which includes lots of header files for C++. I know that these programs aren't running in the background because they are disk intensive and the drive light went off immediately after I switched from these tasks.

A: Because you are running the XGA driver, you should look into the setting for **VIDEO_SWITCH_NOTIFICATION**. It is very possible that the video driver is holding up the execution of this full-screen session because it doesn't really know that it is being put into the background. This setting sends a formal notification to the video driver, instead of letting it find out for itself, which, evidently, is not happening.

SEAMLESS WIN-OS/2 GONE

Q: My system was running normally when suddenly it would not run any of my Windows programs seamlessly. What happened?

A: You probably installed a program that did something to your path—more specifically, to the DOS **PATH** environment variable that is used by your DOS and Windows programs that are running under OS/2. When you see such an error, when everything was running fine and suddenly something does not run right, you need to first look at the last program you installed and what it did to your system.

Each time I install a new program or change the system configuration, I do a desktop archive using OS/2 Warp. If you are not yet using OS/2 Warp, make copies of the *config.sys*, *autoexec.bat* (if you are installing a DOS program), and any other files the program's installation might change.

You need to look at what the program did to your files and fix the problem. Most likely, the last program you added changed the **PATH** in *config.sys*, *autoexec.bat*, or changed something in the *win.ini* or *system.ini* files (because seamless no longer runs).

BACKUPS AND *WP_ROOT._SF*

Q: I am running Fastback for OS/2 1.01. I did a complete restore, but some quirky things are happening. Does the *wp_root._sf* file have anything to do with it? If I format my OS/2 drive with DOS (I have DUAL-BOOT), does a RESTORE completely overwrite the disk after a format? And, if it does, does the *wp_root._sf* file get backed up and restored?

A: The *wp root. sf* (*wp_root._sf* on FAT systems) file is used only by the Drives object. If by "quirky" you mean the behavior of the Drives object, then yes, it might cause it. Your assumption about overwriting the drive is correct. Even after a format, a restore from a backup product should restore the drive to the same state it was in when the backup was taken.

The issue might be the extended attributes (EAs) on the drive. OS/2 relies heavily on extended attributes and handles them differently on FAT-formatted drives from HPFS drives. Depending on how well the individual backup program handles EAs, or even if a problem occurs while restoring the drive and the EAs are corrupted somehow, you might see quirkiness. Another possibility is that you had corrupted EAs even before you performed the backup and the problem was simply perpetuated by restoring the drive. You should look into that for the source of the quirks you are experiencing.

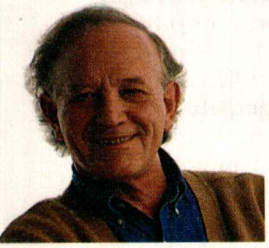
ADDRESSING A PRINTER

Q: A while back I installed OS/2 on my home machine. I have DOS 5 on another partition of the disk and can boot either operating system via the boot manager. I have a laser printer running off of a multifunction card that has two serial, one parallel, and one game port. The printer is address 378 and interrupt 7. I've always been able to print from DOS, but not under OS/2. The printer light blinks once and nothing else happens. The spooler reports a device-not-ready error. What can I do?

A: Well, without knowing your interface card specifically, I can tell you that LPT1 should be address 3BC and IRQ7. If you have any other devices at that address or on that IRQ, you will have a conflict. Your symptoms indicate a bad address or conflict of that type.

You can check the IRQ settings and potential conflicts by using the RMVIEW program (see January 1995, p. 70). If that's not the problem, look at your printer cable. Cables that are too long, are improperly shielded, or that don't have all pins wired can cause signal loss, resulting in the symptoms you describe. If checking and changing these things doesn't fix the problem, the only other thing you can do is try another parallel-port card to see if the interface card is the problem.

David Reich, a contributing editor to OS/2 Magazine and author of Designing High-Performance OS/2 Warp Applications has been with the OS/2 development team since 1987. David is interested in your questions and suggestions. Contact him at CompuServe 76711,632 or Internet speedracer@bocaraton.ibm.com.



Push'n'Play—OS/2 Training Goes Video

VIDEO TUTORS FROM VIAGRAFIX. BY STAN KELLY-BOOTLE

My column goes mult-eye media this month as I review some OS/2 Warp training videos from ViaGrafix. ViaGrafix offers over 280 computer-video and interactive-CD-ROM titles that range from specific applications and operating systems to platform-independent topics, such as programming in C and C++. So, away, I say, with those boringly static books and manuals! Educational TV provides guilt-free couch-potatodom with, to quote Doug McCabe, director of Communications at ViaGrafix, "faster learning and higher retention."

I watched the OS/2 Warp videos shortly after my annual, masochistic exposure to the endless subcategorizations of the Academy Awards. The declining quality of this show over the years, by the way, offers a perfect illustration for the predicate "non-monotonic-increasing." It just can't get worse, yet somehow does. At one point, I thought I heard a teleprompted Stallone mumbling, "De nominations for de Best Multitasking Operating System Available...er...Available Now are OS/2, UNIX, and NT...and de Oscar goes to..." before realizing that I had dozed off.

It was a pleasure to switch to some brisk, no-nonsense OS/2 Warp instruction, finely scripted by Camille Goodwin and narrated by Leslie Thomas and Virgil Richie. The suggested *mode d'emploi* is to first play a tape right through to get the overall gist. That takes about 70 minutes. Then, you rewind and repeat each section to suit your pace and needs, pausing to practice on your own computer. "Pause now" screen prompts appear after each chapter and a printed index card maps each topic to your VCR counter. These props, I suppose, are the best way of overcoming the sequential-access limitations of magnetic tape. We are, alas, still waiting for affordable random-access, hypertext (hyperimage?), high-quality, 70-minute video clips. Is that what the Gates-Spielberg dream-team has in mind for us? As Mao said, "A picture is worth a thousand blooming words, but takes a hundred bleeding megabytes."

Each video includes a $3\frac{1}{2}$-inch disk that contains various sample data files that are appropriate to the lessons. You are shown, for example, how to create a folder and populate it with data from the disk. I suspect, though, that the prime motivation for supplying the disk came from marketing: the largest file contains a complete ViaGrafix price list and order-form template!

Don't expect the verbal or visual humor of, say, David Intersimone's Borland videos. ViaGrafix believes in straight, serious exegesis with most of the footage devoted to dynamic, voice-over desktop screen shots as cursors move and drag with occasional sound effects to hold your attention. The four titles are self-explanatory. The *Getting Started with OS/2 Warp* tape takes you briskly from OS/2 Warp installation (both easy and customized) to shut down with all the basic operations in between, including the installation of Windows and DOS programs.

The Internet, Multimedia, and Advanced videos each assume that you know the basics, but are otherwise independent. The Bonus Pack is well covered. For example, the Advanced video takes you through most of the IBM Works applications, while the Internet video covers Ultimedia Mail, IBM's provider service, NewsReader, gopher, and WebExplorer.

The OS/2 Warp videos are $49.95 when purchased separately, but you can get the set of four for $159.95. That brings the unit price down to the typical cost of an OS/2 book. For businesses, both large and small, these prices are eminently reasonable for OS/2 indoctrination and training. You will encounter no site-license complications: just push'n'play. In most corporate situations, these videos, when supplemented by specific application training, provide the quickest path to user motivation and productivity. For the individual, the choices are less easy. I know from my mail that many readers carefully nurse limited budgets for self-training. However, if you find it difficult to digest manuals, seriously consider the learning advantages of seeing and hearing OS/2 in action. After several video sessions, you may well find the manuals more approachable.

Which reminds me that a Warp edition of *Unleash the Power of OS/2* by David Moskowitz, David Kerr, et al. (see my September 1994 column, p. 72) is now available from Sams Publishing at $39.99. This book is a highly recommended complement to the ViaGrafix OS/2 Warp videos.

RESOURCES:

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Stan Kelly-Bootle started computing on EDSAC I at Cambridge over 40 years ago and has written at least 11 books, the latest of which is The Computer Contradictionary *(MIT Press, 1995). His "Devil's Advocate" column in UNIX Review has been running since 1984. He welcomes e-mail via CompuServe 70323, 1560 or Internet SKB@CRL.com.*

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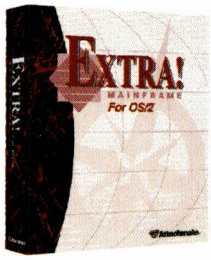

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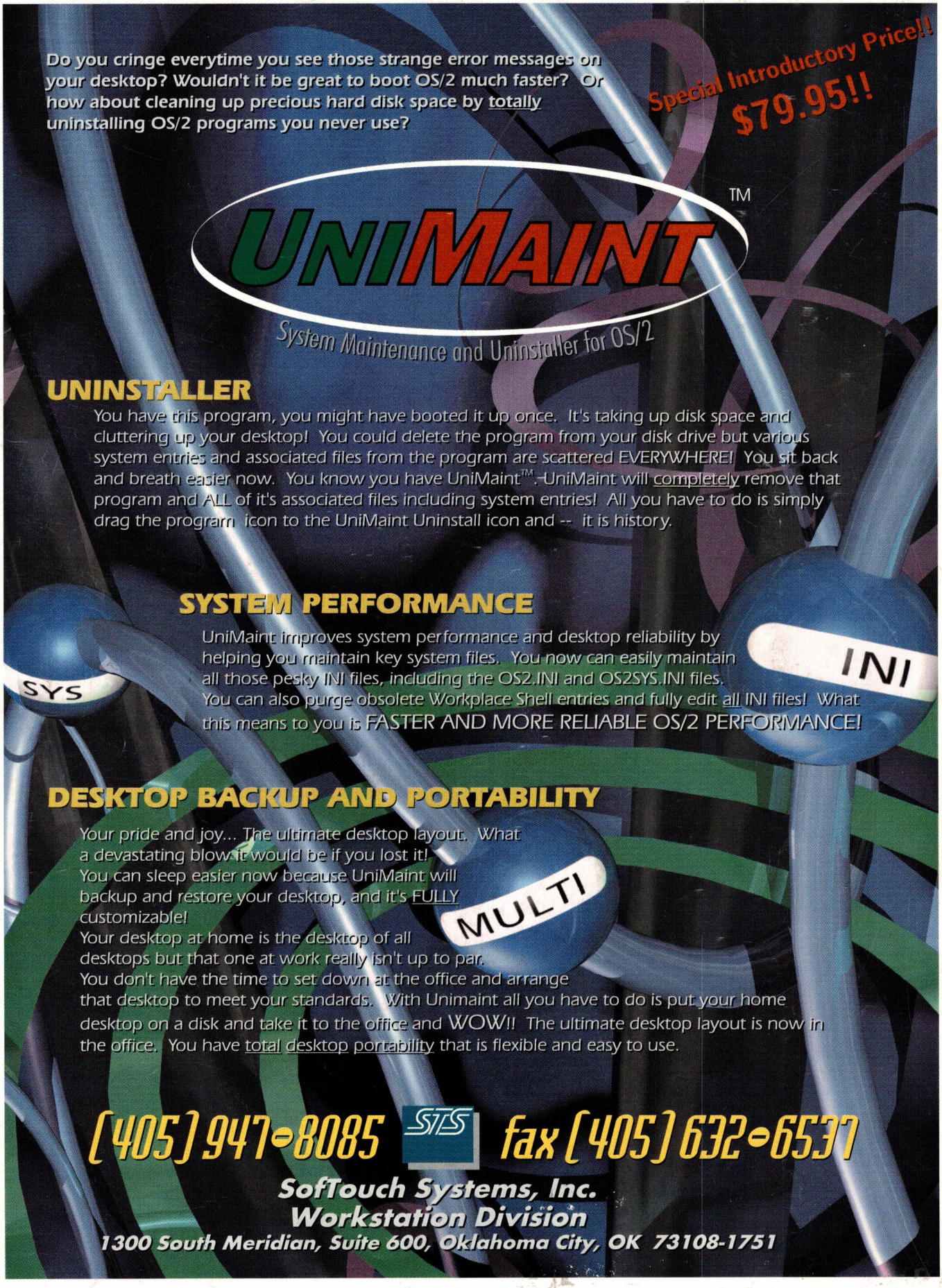
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